From: <jyang@gaiatech.com>
To: VERNETA SIMON/R5/USEPA/US@EPA
Cc: <blorenc@goco.com>
Date: 11/13/2009 12:55 PM
Subject: Down-hole radiation screening, 630 North McClurg, Chicago

Hi,

As we mentioned in August 2009, for a commercial reason, our client selected to conduct a down-hole radiation level measurements as discussed in our August 14, 2009 work plan. We have installed 332 borings across the property (630 N McClurg site) and the entire thickness of the urban fill material on the site has been screened using calibrated equipment. No radiation contamination was found across the property as shown in the attached report.

Regards,

John H. Yang, P.G.; CPG
Vice President
Site Investigation & Remediation

GaiaTech, Inc.
200 North LaSalle Street, Suite 2600
Chicago, Illinois 60601
Tel 312-541-4200 x230
Fax 312-376-0080
M 312-342-4765
jyang@gaiatech.com

(See attached file: A1854-460-1 Downhole Boring Screening Letter Report final 11-12.pdf)

GaiaTech

200 North LaSalle Street • Suite 2600 • Chicago, IL 60601

November 12, 2009

Ms. Verneta Simon
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: Grid Boring Program – Downhole Radiation Screening Results
Former CBS Property
630 North McClurg Court
Chicago, Illinois

Dear Ms. Simon:

GHB-630, LLC. recently completed the grid boring program – downhole radiation survey for the property referenced above in accordance with the Workplan dated August 14, 2009. Although the scope of work was not required by the US Environmental Protection Agency (US EPA), the work was conducted to provide site wide screening for commercial purposes (more informed business planning), in order to further assess liabilities related to the potential presence of thorium-impacted fill materials at the property.

A surface walk-over radiation survey completed prior to this survey has also been completed at the subject property and the results were previously sent to the US EPA for comment. The surface radiation survey found no confirmed thorium impact on the property, as referenced in the summary report – R*esults of Surface Radiation Survey and Focused Screening around Boring B-35,* which was submitted to the US EPA on July 29, 2009 (Appendix A).

Background

The property consists of an area bounded by McClurg Court to the east, Ontario Street to the south and Erie Street to the north with a parking structure to the west. Site dimensions are 305 x 218 feet (66,490 ft2). All surface structures and utilities have been removed from the site in early 2009.

According to various historical sources, the site was developed in 1924 as the Chicago Riding Club. The site remained the Chicago Riding Club until approximately 1950 when it was remodeled into the Chicago Arena Corporation as an ice skating rink. Chicago Arena Corporation was located at the site until 1954 when the site was redeveloped into CBS-WBBM Studios. The site is currently owned by GHB-630, LLC, which purchased the property from CBS.

Scope of Work

The scope of work was completed in accordance with the work plan previously sent to US EPA on August 14, 2009. Based on the results of the surface survey completed in May and June 2009, indicating no evidence of

thorium contamination at the property, we recommended a grid sampling program in accordance with the US Nuclear Regulatory Commission (NRC) guidance for "unaffected areas" as described in draft CR-5849. Although this draft guidance has not been finalized, the US EPA or NRC has not recommended any other acceptable screening models for a typical due diligence review related to a property transfer.

Prior to the survey, GaiaTech set up a 10-meter x 10-meter grid system for the entire property with five borings marked within each grid. Four locations, each equidistant between the center and each of the 4 corners and the center of the 10-meter grid were marked as boring locations (Figure 1). During the survey a total of 332 borings were installed and screened at the site between August 10 and September 18, 2009. Within each survey grid, soil borings were advanced to a depth of between 20 and 22 feet to completely penetrate the fill materials into the underlying native soil of the site. After drilling to the desired depths, a 3-inch diameter casing was installed and the auger removed to facilitate downhole logging for thorium impact.

After the installation of the casing, GaiaTech and its subcontractor (RSSI) performed a subsurface survey for potential radiation (downhole logging), utilizing a gamma detector which was calibrated using calibration blocks from the Tronox facility in West Chicago. The field technician conducted their work under the direction of a certified health physicist. Surveying was accomplished by lowering the survey meter to the bottom of the casing and slowly pulling it up measured 12-inch intervals with each reading recorded in a field notebook. Readings were collected at each interval using 1-minute meter readings. If no elevated readings were noted, the casing was pulled from the hole for reuse. The borehole was then backfilled with the soil cuttings and/or filled to the surface with bentonite chips.

If elevated readings in excess of the threshold limits of the field meters (equivalent to the US EPA action level) were found, the boring location and depth intervals were marked for future sampling. Subsurface soil sampling was then completed by drilling a boring adjacent to the suspect boring location and advancing it to just above the depth of the suspect reading. A split-spoon sampler would then be advanced to the desired depth that corresponded to the elevated reading. Soils were retrieved from the sampler sifted to remove the larger aggregate and placed in a laboratory supplied container. The soils were then be placed in laboratory supplied container, transported under chain of custody procedures and analyzed at RSSI Laboratories in Morton Grove, Illinois. Soils generated during the drilling process from the suspect boring location were checked for elevated readings before returning them to the borehole.

Instrument Calibration

The survey was performed utilizing a Ludlum Model 2200 meter with a Ludlum Model 44-10 (2 x 2) thallium doped sodium iodide (NaI (Tl)) gamma scintillation detector. Each Model 2200 was calibrated to detect gamma radiation from the thorium series while discriminating against background radiation. The Model 44-10 detector/probe was unshielded for downhole measurements.

The gamma detector was calibrated using calibration blocks from the Tronox facility in West Chicago. Calibration each Ludlum Model 2200 meter with a (2 x 2) sodium iodide probe is attached under Appendix C.

Two 2200 meters were utilized during the survey, the first meter (serial #69279) had an established downhole background level of 5,237 counts with a calibrated rate of 3,223 cpm/pCi/g (22,881 counts is the calibrated threshold limit), while the second meter also had established background level of approximately 5,400 counts (serial #36762) with a calibrated rate of 3,220 cpm/pCi/g (22,861 counts is threshold limit). The field threshold limit was then based on the calibration threshold rate plus the background level. Thus 28,118 and 28,261 counts

were used for the threshold limits for each meter respectively (Appendix B).

Due to instrument failure on September 10, 2009 the instrument probe was changed on one of the survey meters and recalibrated the next day utilizing the Tronox calibration blocks. The new calibrated count rate including the back ground reading was now 20,861 counts (#36762 meter/probe).

Health and Safety Plan

All work involving the drilling and handling of potentially radiologically contaminated soils was conducted in accordance with the attached Health & Safety Plan (Appendix C). Soil screened with a hand held instrument will not be considered as a final determination of soil concentration, but will provide the necessary information on working conditions and the need for impacted soil handling. Soil concentrations measured with an appropriate laboratory instrument, such as germanium counters used with gamma spectroscopy equipment, were considered as the final determination of soil impact.

Soil cuttings generated during drilling were surveyed by a field technician under the direction of a certified health physicist using a calibrated hand-held gamma-ray detector. This information was used to provide information on safe working conditions during drilling and downhole surveying.

Survey Results

GaiaTech completed the downhole survey between August 14 and September 18, 2009. Generally, fill materials were found at depths of 16 to 18 feet deep on the western portion of the site and at depths of 18 to 22 feet on the eastern portion. Native soils encountered after the penetration of the fill materials was observed to consist of gray or brown/gray silt, sand or silty clay materials. Ground water was encountered at a depth of approximately 14 feet bgs.

The location and placement of each boring set in the 10-meter grid area was selected for grid coverage and biased towards potential radiation impacts based on prior surface survey results. As needed, borings were adjusted to bypass any existing impenetrable concrete structures such as pile caps, caissons or other large foundation structures. The location of the borings is attached as Figure 1. Survey Results are attached as Appendix D. A Photographic summary is attached as Appendix E.

During the survey, only one location (AO-44), out of 332 borings, was observed to be slightly in excess (29,800 counts) of the instrument field threshold limit (28,261 counts). Confirmatory soil sampling was completed around this boring location utilizing three borings. Three borings were advanced immediatly adjacent to the suspect boring location in order to confirm the presence of soil impact. Three borings were used to triangulate around the original boring to determine the magnitude and direction of any soil impact. The sample results for AO-44 N, AO-44 W and AO-44 SE indicated that all samples were below the threshold limit with readings of approximately 4 PCi/g or less. The results are listed as Appendix F.

Conclusions

During the survey 332 borings were installed to investigate and quantify any potential thorium impact at the subject site. The results indicated no confirmed thorium impact at any surface area or at any downhole location.

If we can provide any additional information or clarification, please do not hesitate to contact me at 312.541.4200 ext. 230.

Sincerely,

GaiaTech Incorporated

John H. Yang, CPG
VP, Site Investigation & Remediation

Cc: Brian Lorenc, GHB-630, LLC.
Bruce Armstrong, Golub & Company
Daniel Swartzman, DiVincenzo Schoenfield Swartzman

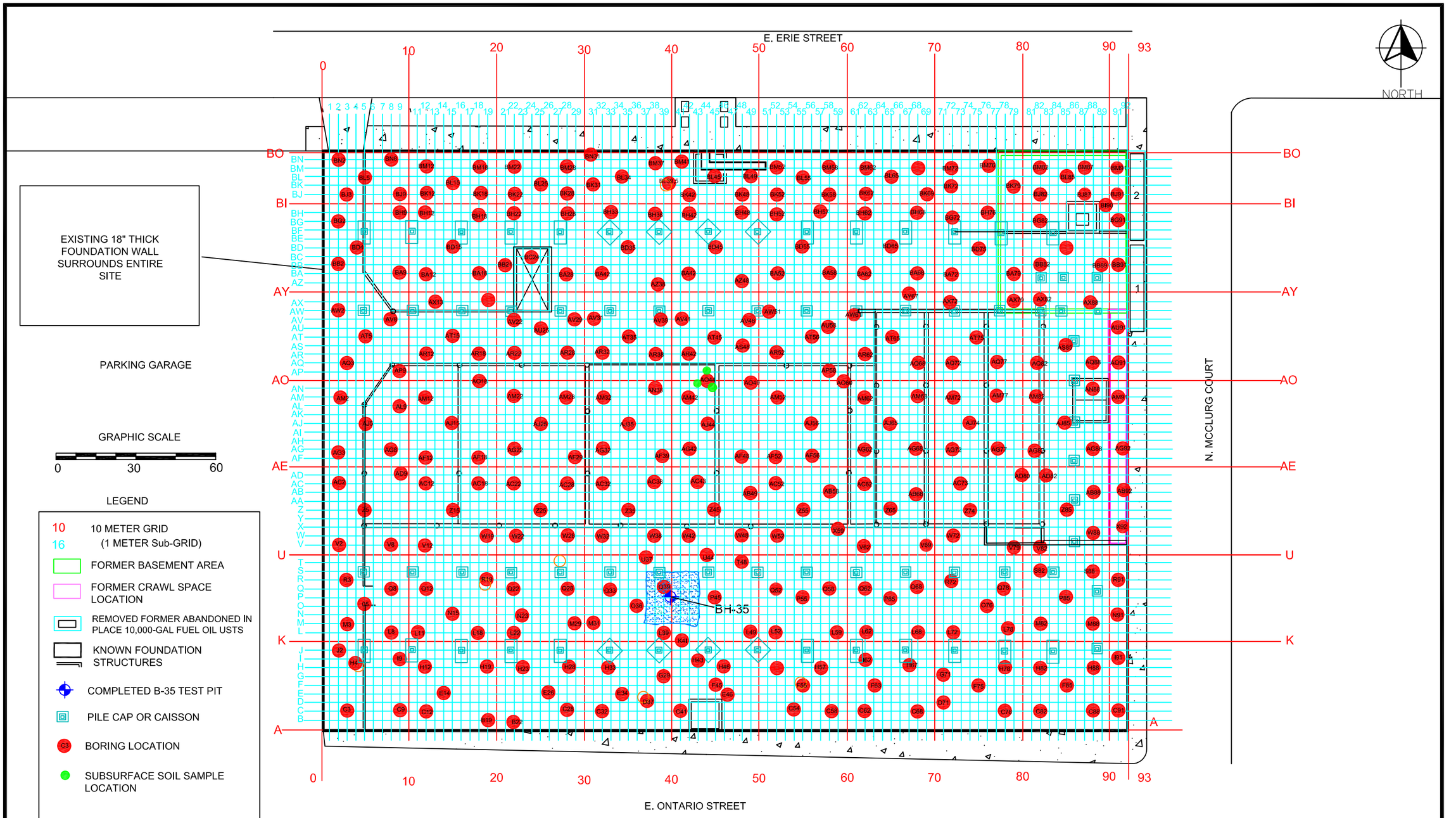
Figures

Figure 1- Boring and Sampling Locations

Appendices

Appendix A – Surface Screening Results Report
Appendix B – Instrument Calibration Logs
Appendix C - Health and Safety Plan
Appendix D- RSSI Downhole Survey Results
Appendix E - Survey Photo Summary
Appendix F – Laboratory Soil Sample Analytical Results

Figure



DESCRIPTION: FORMER CBS/GHB 630, LLC 630 NORTH McCLURG COURT CHICAGO, IL		DRAWN: LB	FILE: A1854-460-0	FIGURE: FIGURE 1 - FINAL BORING LOCATIONS AND SURVEY GRID	
		CHECK: LB			GaiaTech
CLIENT: GHB-630, LLC	SCALE: GRAPHIC	DATE: 10-10-09			

Appendix A

Surface Screening Results Report

GaiaTech

200 North LaSalle Street • Suite 2600 • Chicago, IL 60601

August 14, 2009

Ms. Verneta Simon
United States Environmental Protection Agency
Region V
77 West Jackson Boulevard
Chicago, Illinois 60604-3590

Re: Grid Boring Program – Downhole Radiation Screening
Former CBS Property
630 North McClurg Court
Chicago, Illinois

Dear Ms. Simon:

As indicated in our recent phone conversation, our client, GHB-630, LLC., would like to conduct this grid boring program – downhole radiation survey of the property located at 630 North McClurg Court, Chicago, Illinois. Although the proposed scope of work is not actually required by the US Environmental Protection Agency (USEPA), for a commercial purpose (better business planning), GHB-630, LLC selects to proceed with the downdole radiation survey in order to further assess liabilities related to potential presence of thorium-contaminated fill materials at the property.

A surface walk-over radiation survey has been completed at the subject property. No radiation contamination has been found at the property, s indicated in the summary report – *Results of Surface Radiation Survey and Focused Screening around Boring B-35,* which was submitted to the USEPA on July 29, 2009.

Proposed Scope of Work

As there is presently no direct evidence of thorium contamination at the property, we recommend a grid sampling program in accordance with the US Unclear Regulatory Commission (NRC) guidance for "unaffected areas" as described in draft CR-5849. Although this draft guidance has not been finalized, the USEPA has not recommended any acceptable screening models for a typical due diligence review related to a property transfer.

GaiaTech will set up a 10-meter x 10-meter grid system for the entire property with five borings for each grid. Four locations, each equidistant between the center and each of the 4 corners and the center of the 10-meter grid will be marked as boring locations (Figure 1). It has been determined that a total of approximate 315 borings will be installed and screened for the site. Within each survey grid soil borings will be advanced to a depth of 18-20 feet to completely penetrate the fill materials at the site. After drilling to desired depths, a 3-inch diameter casing will be installed and the auger will be removed to facilitate downhole logging for radiation.

After the installation of the casing, GaiaTech and its subcontractor (RSSI) will then perform a subsurface survey for potential radiation (downhole logging), using a gamma detector which has been calibrated using

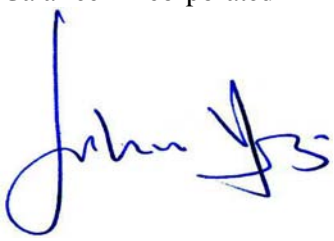
calibration blocks from the Tronox facility in West Chicago. The field technician will be under the direction of a certified health physicist. Surveying will be accomplished by lowering the survey meter slowly down the casing in approximately 12-inch intervals with each reading recorded in a field notebook. If no elevated readings are noted, the casing will be pulled from the hole for reuse. The borehole will then be backfilled with the soil cuttings.

If elevated readings in excess of the threshold limits of the field meters (equivalent to the USEPA action level) are found, the boring location and depth intervals will be marked and then a confirmatory soil sample will be collected for laboratory analysis using a Geoprobe® unit. Soils generated during the drilling process from the suspect boring location will be checked for elevated readings before returning them to the borehole. If elevated readings are found in the drilling spoil pile, this material will be placed into a supersack for future disposal. If radiation contamination is confirmed, GHB630, LLC will notify the USEPA the findings.

If we can provide any additional information or clarification, please do not hesitate to contact me at 312.541.4200 ext. 230.

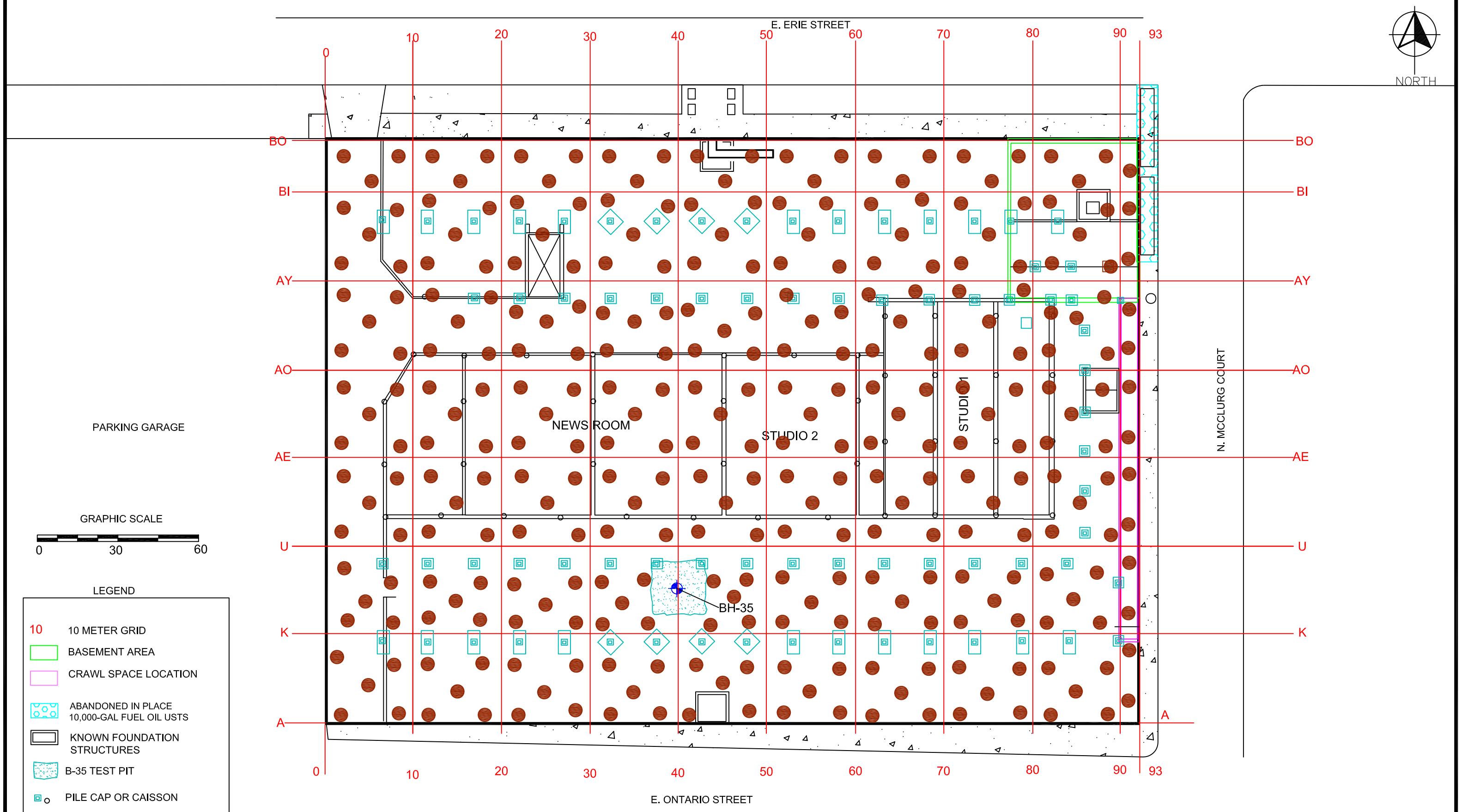
Sincerely,

GaiaTech Incorporated



John H. Yang, CPG
VP, Site Investigation & Remediation

Cc: Brian Lorenc, GHB-630, LLC.
Bruce Armstrong, Golub & Company
Daniel Swartzman, DiVincenzo Schoenfield Swartzman



GRAPHIC SCALE

0 30 60

LEGEND

- 10 — 10 METER GRID
- BASEMENT AREA
- CRAWL SPACE LOCATION
- ABANDONED IN PLACE 10,000-GAL FUEL OIL USTS
- KNOWN FOUNDATION STRUCTURES
- B-35 TEST PIT
- PILE CAP OR CAISSON
- PROPOSED BORING

DESCRIPTION: FORMER CBS - WBBM, 630 NORTH McCLURG COURT, CHICAGO, IL		DRAWN: RJ	FIGURE: SITE PLAN WITH PROPOSED BORINGS FIGURE 1
		CHECK: LB	
CLIENT: GHB630, LLC	SCALE: GRAPHIC	DATE: 8/17/09	FILE: A1854-500-1

GaiaTech

Appendix B

Instrument Calibration Logs

RSSI

CERTIFICATE OF CALIBRATION

6312 West Oakton Street
Morton Grove, IL 60053-2723
Telephone: 847-965-1999
Fax: 847-965-1991
www.rssi.us

Certificate No. 045120

RSSI
Attention: Eli A. Port, Rso
6312 West Oakton Street
Morton Grove, IL 60053-2723

Manufacturer: LUDLUM
Model: 193
Serial No.: 149073
Probe(s): LUDLUM 44-10, Sn: PR159705

CALIBRATION DATA

SOURCE*	SCALE	FIELD (cpm)	READING (cpm)	FIELD (cpm)	READING (cpm)
5	x1	200	200	800	800
5	x10	2 K	2 K	8 K	8 K
5	x100	20 K	20 K	80 K	80 K
5	x1000	200 K	200 K	800 K	800 K

If the accuracy of a scale is not within +/-10% but is within +/-20% a correction factor is supplied.

Check Source: BA-133 **Reading:** 680 kcpm

Temperature: 23 °C **Relative Humidity:** 35 % **Barometric Pressure:** 990 mbar

Calibrated by: Timothy Hall **Date:** 6/5/09

Calibration Frequency: Annual **Recalibrate by:** 6/5/10

*SOURCE	1. Cs-137	2. Cs-137	3. Am-241	4. Cf-252	5. Electronic	6. Other
Manufacturer	U.S. Nuclear	Eon Corp.	Amersham	Amersham		
Model	CCs-D-20E	64-764	AMC 13446	100		
Serial Number		722	7510 LA	FTC-CF-001		
Activity	15 Ci	100 mCi	100 mCi	1801 µg		
Date	5/2009	5/2/78	6/3/84	10/8/85		

Calibration authorized by Illinois Department of Nuclear Safety License No. IL-01429-01 and meets the requirements of ANSI 323-1978 and MIL-STD-45662A.
Exposure rate traceable to NIST with MDH model 1015 SN 109 transfer instrument. Radcal Cert. of Conf. 20300.

CERTIFICATE OF CALIBRATION

RSSI

6312 West Oakton Street
Morton Grove, IL 60053-2723
Telephone: 847-965-1999
Fax: 847-965-1991
www.rssi.us

Certificate No. 044611

RSSI
Attention: Eli A. Port, Rso
6312 West Oakton Street
Morton Grove, IL 60053-2723

Manufacturer: LUDLUM
Model: 193
Serial No.: 149080
Probe(s): EBERLINE SPA-3

CALIBRATION DATA

SOURCE*	SCALE	FIELD (cpm)	READING (cpm)	FIELD (cpm)	READING (cpm)
5	x1	200	200	800	800
5	x10	2 K	2 K	8 K	8 K
5	x100	20 K	20 K	80 K	80 K
5	x1000	200 K	200 K	800 K	800 K

If the accuracy of a scale is not within +/-10% but is within +/-20% a correction factor is supplied.

Check Source: Not Applicable

Temperature: 25 °C **Relative Humidity:** 50 % **Barometric Pressure:** 992 mbar

Calibrated by: Timothy Hall **Date:** 9/12/08

Calibration Frequency: Annual **Recalibrate by:** 9/12/09

*SOURCE	1. Cs-137	2. Cs-137	3. Am-241	4. Cf-252	5. Electronic	6. Other
Manufacturer	U.S. Nuclear	Eon Corp.	Amersham	Amersham		
Model	CCs-D-20E	64-764	AMC 13446	100		
Serial Number		722	7510 LA	FTC-CF-001		
Activity	11.5 Ci	100 mCi	100 mCi	1801 µg		
Date	1/1994	5/2/78	6/3/84	10/8/85		

Calibration authorized by Illinois Department of Nuclear Safety License No. IL-01429-01 and meets the requirements of ANSI 323-1978 and MIL-STD-45662A.
Exposure rate traceable to NIST with MDH model 1015 SN 109 transfer instrument. Radcal Cert. of Conf. 20300.

CERTIFICATE OF CALIBRATION

RSSI

6312 West Oakton Street
Morton Grove, IL 60053-2723
Telephone: 847-965-1999
Fax: 847-965-1991
www.rssi.us

Certificate No. 045109

RSSI
Attention: Eli A. Port, Rso
6312 West Oakton Street
Morton Grove, IL 60053-2723

Manufacturer: LUDLUM
Model: 2200
Serial No.: 69279
Probe(s): Not Applicable

CALIBRATION DATA

SOURCE*	SCALE	FIELD (cpm)	READING (cpm)	FIELD (cpm)	READING (cpm)
5	X1	100	100	400	400
5	X10	1000	1000	4000	4000
5	X100	10 K	10 K	40 K	40 K
5	X1000	100 K	100 K	400 K	400 K
	SCALER	counts	counts	counts	counts
5		50	50	500	494
5		5 K	4941	50 K	49543
5		500 K	495149		

If the accuracy of a scale is not within +/-10% but is within +/-20% a correction factor is supplied.

Check Source: Not Applicable

Temperature: 23.5 °C **Relative Humidity:** 43 % **Barometric Pressure:** 987 mbar

Comments: All scaler counts taken for one minute periods.

Calibrated by: Timothy Hall **Date:** 6/1/09

Calibration Frequency: Annual **Recalibrate by:** 6/1/10

*SOURCE	1. Cs-137	2. Cs-137	3. Am-241	4. Cf-252	5. Electronic	6. Other
Manufacturer	U.S. Nuclear	Eon Corp.	Amersham	Amersham		
Model	CCs-D-20E	64-764	AMC 13446	100		
Serial Number		722	7510 LA	FTC-CF-001		
Activity	15 Ci	100 mCi	100 mCi	1801 µg		
Date	5/2009	5/2/78	6/3/84	10/8/85		

Calibration authorized by Illinois Department of Nuclear Safety License No. IL-01429-01 and meets the requirements of ANSI 323-1978 and MIL-STD-45662A.
Exposure rate traceable to NIST with MDH model 1015 SN 109 transfer instrument. Radcal Cert. of Conf. 20300.

CERTIFICATE OF CALIBRATION

RSSI

6312 West Oakton Street
Morton Grove, IL 60053-2723
Telephone: 847-965-1999
Fax: 847-965-1991
www.rssi.us

Certificate No. 045247

RSSI
Attention: Eli A. Port, Rso
6312 West Oakton Street
Morton Grove, IL 60053-2723

Manufacturer: LUDLUM
Model: 2200
Serial No.: 36762
Probe(s): Not Applicable

CALIBRATION DATA

SOURCE*	SCALE	FIELD (cpm)	READING (cpm)	FIELD (cpm)	READING (cpm)
5	x1	100	100	400	400
5	x10	1000	1000	4000	4000
5	x100	10 K	10 K	40 K	40 K
5	x1000	100 K	100 K	400 K	400 K
	SCALER	counts	counts	counts	counts
5	0 - 1000	50	50	500	494
5	0 - 100 K	5 K	4942	50 K	49449
5	0 - 1 M	500 K	494929		

If the accuracy of a scale is not within +/-10% but is within +/-20% a correction factor is supplied.

Check Source: Not Applicable

Temperature: 26 °C **Relative Humidity:** 48 % **Barometric Pressure:** 989 mbar

Comments: All scaler counts taken for one minute periods.

Calibrated by: Timothy Hall **Date:** 7/15/09

Calibration Frequency: Annual **Recalibrate by:** 7/15/10

*SOURCE	1. Cs-137	2. Cs-137	3. Am-241	4. Cf-252	5. Electronic	6. Other
Manufacturer	U.S. Nuclear	Eon Corp.	Amersham	Amersham		
Model	CCs-D-20E	64-764	AMC 13446	100		
Serial Number		722	7510 LA	FTC-CF-001		
Activity	15 Ci	100 mCi	100 mCi	1801 µg		
Date	5/2009	5/2/78	6/3/84	10/8/85		

Calibration authorized by Illinois Department of Nuclear Safety License No. IL-01429-01 and meets the requirements of ANSI 323-1978 and MIL-STD-45662A.
Exposure rate traceable to NIST with MDH model 1015 SN 109 transfer instrument. Radcal Cert. of Conf. 20300.

RSSI

CERTIFICATE OF CALIBRATION

6312 West Oakton Street
Morton Grove, IL 60053-2723
Telephone: 847-965-1999
Fax: 847-965-1991
www.rssi.us

Certificate No. 044668

RSSI
Attention: Eli A. Port, Rso
6312 West Oakton Street
Morton Grove, IL 60053-2723

Manufacturer: LUDLUM
Model: 3
Serial No.: 95721
Probe(s): LUDLUM 44-9, Sn: PR094174

CALIBRATION DATA

SOURCE*	SCALE	FIELD (cpm)	READING (cpm)	FIELD (cpm)	READING (cpm)
5	x0.1	100	100	400	400
5	x1	1 K	1 K	4 K	4 K
5	x10	10 K	10 K	40 K	40 K
5	x100	100 K	100 K	400 K	400 K

If the accuracy of a scale is not within +/-10% but is within +/-20% a correction factor is supplied.

Efficiencies: α; 0.12 c/α (Pu-239) β; 0.15 c/β (Tc-99)

Check Source: Ba-133 **Reading:** 4.6 kcpm **Probe Window:** open

Temperature: 22.5 °C **Relative Humidity:** 46 % **Barometric Pressure:** 994 mbar

Calibrated by: Timothy Hall **Date:** 10/3/08

Calibration Frequency: Annual **Recalibrate by:** 10/3/09

*SOURCE	1. Cs-137	2. Cs-137	3. Am-241	4. Cf-252	5. Electronic	6. Other
Manufacturer	U.S. Nuclear	Eon Corp.	Amersham	Amersham		
Model	CCs-D-20E	64-764	AMC 13446	100		
Serial Number		722	7510 LA	FTC-CF-001		
Activity	11.5 Ci	100 mCi	100 mCi	1801 µg		
Date	1/1994	5/2/78	6/3/84	10/8/85		

Calibration authorized by Illinois Department of Nuclear Safety License No. IL-01429-01 and meets the requirements of ANSI 323-1978 and MIL-STD-45662A.
Exposure rate traceable to NIST with MDH model 1015 SN 109 transfer instrument. Radcal Cert. of Conf. 20300.

LUDLUM 193
SN: 149073

Calibrated on 08/05/09

	Action limit (pCi/g)	EPA limit (pCi/g)
	5	7.1

SURFACE with PR159705 #1

With shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
2400	10	9400	7000	700	3500	4970

cpm/pCi/g	**700**
Action	**3500**
Limit:	**4970**

Without shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
6000	10	28000	22000	2200	11000	15620

cpm/pCi/g	**2200**
Action	**11000**
Limit:	**15620**

SURFACE with PR155592 #2

With shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
2800	10	9400	6600	660	3300	4686

cpm/pCi/g	**660**
Action	**3300**
Limit:	**4686**

Without shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
5600	10	28000	22400	2240	11200	15904

cpm/pCi/g	**2240**
Action	**11200**
Limit:	**15904**

LUDLUM 193
SN: 149080

Calibrated on 08/05/09

	Action limit (pCi/g)	EPA limit (pCi/g)
	5	7.1

SURFACE with PR159705 #1

With shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
2000	10	9000	7000	700	3500	4970

cpm/pCi/g	**700**
Action	**3500**
Limit:	**4970**

Without shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
4800	10	26000	21200	2120	10600	15052

cpm/pCi/g	**2120**
Action	**10600**
Limit:	**15052**

SURFACE with PR155592 #2

With shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
2000	10	8600	6600	660	3300	4686

cpm/pCi/g	**660**
Action	**3300**
Limit:	**4686**

Without shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
6000	10	28000	22000	2200	11000	15620

cpm/pCi/g	**2200**
Action	**11000**
Limit:	**15620**

LUDLUM 2200
SN: 69279

Calibrated on 08/05/09

	Set	Actual
Window	off	
Threshold	100	10 mV
HV	390	1010

	Action limit (pCi/g)	EPA limit (pCi/g)
	5	7.1

DOWNHOLE with PR159812

Background 5237
PVC

	pCi/g	gross cpm	net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
CD-1	1.7	15004	9767	5745	28726	40792
CD-8	12.9	46663	41426	3211	16057	22800
CD-7	23.4	80913	75676	3234	16170	22962

cpm/pCi/g	**3223**
Action	**16113**
Limit:	**22881**

SURFACE with PR159812

+ Background 5,000 to 6,050 counts
= 28,881 counts

Without shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
4877	10	25675	20798	2079.8	10399	14767

cpm/pCi/g	**2080**
Action	**10399**
Limit:	**14767**

Calibrated against Th slab SN: 2012-54-3TA and 2012-54-4TA

LUDLUM 2200 Calibrated on 08/05/09
SN: 69279

	Set	Actual
Window	off	
Threshold	100	10 mV
HV	390	1010

	limit (pCi/g)	**EPA limit (pCi/g)**
	5	**7.1**

DOWNHOLE with PR159705 #1

Background 5120
PVC

	pCi/g	gross cpm	net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
CD-1	1.7	14978	9858	5799	28994	41172
CD-8	12.9	46666	41546	3221	16103	22866
CD-7	23.4	80824	75704	3235	16176	22970

cpm/pCi/g	**3228**
Action	**16140**
Limit:	**22918**

SURFACE with PR159705 #1

Without shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
4992	10	25430	20438	2043.8	10219	14511

cpm/pCi/g	**2044**
Action	**10219**
Limit:	**14511**

Calibrated against Th slab SN: 2012-54-3TA and 2012-54-4TA

LUDLUM 2200
SN: 36762

Calibrated on 08/05/09

	Set	Actual
Window	off	
Threshold	110	10 mV
HV	390	1010

	limit (pCi/g)	**EPA limit (pCi/g)**
	5	**7.1**

DOWNHOLE with PR159705 #1

Background 5276
PVC

	pCi/g	gross cpm	net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
CD-1	1.7	15215	9939	5846	29232	41510
CD-8	12.9	47447	42171	3269	16345	23210
CD-7	23.4	80790	75514	3227	16135	22912

cpm/pCi/g	**3248**
Action	**16240**
Limit:	**23061**

SURFACE with PR159705 #1

Without shield

Bkgd (cpm)	Slab (pCi/g)	Gross cpm	Net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
5107	10	25907	20800	2080	10400	14768

cpm/pCi/g	**2080**
Action	**10400**
Limit:	**14768**

Calibrated against Th slab

SN: 2012-54-3TA and 2012-54-4TA

LUDLUM 2200
SN: 36762

Calibrated on 09/10/09

	Set	Actual
Window	off	
Threshold	110	10 mV
HV	450	1010

	limit (pCi/g)	**EPA limit (pCi/g)**
	5	**7.1**

DOWNHOLE with PR159705 #1

Background 5108
PVC

	pCi/g	gross cpm	net cpm	cpm/pCi/g	Action(cpm)	Limit (cpm)
CD-1	1.7	10401	5293	3114	15568	22106
CD-8	12.9	33481	28373	2199	10997	15616
CD-7	23.4	57475	52367	2238	11190	15889

cpm/pCi/g	**2219**
Action	**11093**
Limit:	**15753**

Appendix C

Health and Safety Plan

GaiaTech

GHB 630, LLC
(Former CBS Site)

SITE-SPECIFIC
HEALTH AND SAFETY PLAN

PROJECT NUMBER:	A4510-4200-0	**GAIATECH MANAGING OFFICE:**	Chicago
PROJECT NAME:	Former CBS site/GHB 630 LLC	Radiation Subsurface Surveying	
PROJECT LOCATION:	630 N. McClurg Ct.	Chicago	
CLIENT CONTACT:	Mr. Brian Lorenc	**PHONE NUMBER:**	312-315-0880

PLANNED FIELD ACTIVITY(S) (Use additional pages if necessary) The scope of work involves the collection of soil and groundwater samples from borings and monitoring wells. Borings will be installed through direct push drilling method

REVIEW AND APPROVALS:	Name	Signature	Date
HEALTH AND SAFETY PROFESSIONAL:	Larry Bertsch		
	(312) 541-4200		
PREPARED BY:	L. Bertsch		
TECHNICAL LEADER:	John Yang		
FIELD PROJECT MANAGER:	Larry Bertsch		

(*) **Responsibilities of the Field Project Manager:** The Field Project Manager will function as the primary on-site contact for health and safety during field activities. He/she oversees field health and safety procedures and operations for **GaiaTech** personnel. He/she has the authority to stop work if conditions are judged to be hazardous to on-site personnel and/or the public. He/she shall report all injuries/incidents (regardless of severity) to the Health and Safety Professional as soon as practical after the injury/accident occurs.

PERSONNEL AUTHORIZATION

By signing and dating this form, the listed **GaiaTech** individual acknowledges that he/she has read and understands and will comply with the requirements of this Site-Specific Healthy & Safety Plan (SSHASP).

	SIGNATURE OF GAIATECH PERSONNEL AUTHORIZED TO ENTER SITE	DATE		SIGNATURE OF GAIATECH PERSONNEL AUTHORIZED TO ENTER SITE	DATE
1			4		
2			5		
3			6		

GaiaTech

SITE-SPECIFIC HEALTH AND SAFETY PLAN

EMERGENCY PHONE NUMBERS To be determined and verified by Field Project Manager prior to beginning work.

- **MEDICAL/HOSPITAL 911**
  Northwestern Hospital, (two blocks north of site) – see attached supplemental HASP for Details and other relevant phone numbers
  [For directions to the hospital to the site, see attached map. **]
- **POLICE 911**
- **FIRE 911**
- **POISON CONTROL 1-800-222-1222**

CONTACTS	HEALTH and SAFETY PROFESSIONAL	FIELD PROJECT MANAGER	TECHNICAL LEADER
Name:	Larry Bertsch	Larry Bertsch	John Yang
Office Number:	(312) 541-4200 ext. 270	(312) 541-4200 ext. 246	(312) 541-4200 ext. 230
Mobile Number:	(630) 730-7905	(312) 415-4359	(312) 342-4765
Home Number:			

DATE OF PLAN PREPARATION	DATES OF PLANNED FIELD ACTIVITIES
7/28/09	8/10/09 to 8/29/09 or later

DESCRIPTION OF SITE AND FIELD ACTIVITIES

The subject site is currently a vacant lot after the recent demolition of the former CBS studio building in the Spring of 2009. Previous sampling has shown that the site contains non-hazardous levels of PNAs, and metals (arsenic and lead) and may have some isolated petroleum impact. The site is located directly adjacent to the Streeterville thorium USEPA superfund site and as such may have impacted soils containing impacted with thorium mill tailings. Thorium mill tailings may have radiation impacts above the USEPA action level. A previous surface survey and test pit did not find any confirmed impacts at the site despite the initial report of elevated meter readings.

This scope of work will include the installation of 328 borings test holes. In the test hole, a temporary 3-inch casing will be installed in which a downhole survey meter will check the subsurface soils for areas of potential impact. If impact is found a future boring will be drilled adjacent to the suspect location for soil sampling and confirmation of impact.

Other personnel assigned to handle hazardous materials (e.g. decontaminate, ship samples):

	NAME OF PERSONNEL	COMPANY	DATE
1			
2			
3			

SITE-SPECIFIC
HEALTH AND SAFETY PLAN

TABLE OF CONTENTS

TABLES

FIGURES

EMERGENCY PHONE NUMBERS

IN THE EVENT OF AN EMERGENCY DIAL 911
AMBULANCE SERVICE 911
FIRE DEPARTMENT..... 911
EMERGENCY RESCUE SERVICE 911
POLICE DEPARTMENT 911
NATIONAL RESPONSE CENTER..... 1-800-424-802
POISON CONTROL CENTER 1-800-732-200
NORTHWESTERN MEMORIAL HOSPITAL ..... (312) 908-2000
ILLINOIS DEPARTMENT OF NUCLEAR SAFETY
(IDNS) EMERGENCY NUMBER..... (217) 785-0600
PROJECT COORDINATOR (JOHN YANG ext. 230 or LARRY BERTSCH ext. 270) .(312) 541-4200
SITE PROJECT COORDINATOR (LARRY BERTSCH - CELL #630-730-7905).....(312) 541- 4200
DRILLING CONTRACTOR – CS DRILLING (John Sweeny or Mike....(630-789-0888 or cell 630-918-4937)
RSSI CORRDINATOR .....(Eli Port).....(847-965-1999)
RSSI – (Survey Company and Laboratory).....(847) 965-1991
HANNIGAN DEMOLITON .....(312) 907-1539
OWNERS REPRESENTIVE/PM – (BRIAN LORENC – GOLUB & CO.).....(312) 315-0884
ILLINOIS EMERGENCY MANAGEMENT..... (217) 782-7860
USEPA REGION 5 - 24-HOUR EMERGENCY NUMBER..... (312) 353-2318

- (VERNETA SIMON EPA PROJ MANAGER - 312-886-3601)

ENSR – John Petruccione – Tronox representative.....(630-836-1700 or cell 842-224-6614)

1.0 SCOPE OF WORK and PLAN

Scope of HASP

The following Health and Safety Plan (HASP) will be utilized and modified as necessary in order to minimize and prevent exposures to hazardous substances and conditions related to all excavation and remediation activities within the potential onsite Radiological Area of Concern (RAC) (630 North McClurg Court). All personnel assigned to this project will be required to review thoroughly the contents of the HASP and to strictly adhere to the policies and procedures listed herein. This HASP is for use only by the Site owner and their designated contractors and consultants, and approved Site visitors. USEPA, and other agencies, are not considered visitors and will be required to conform to their own Health and Safety Plans.

All areas of the site were survey/drilling personnel may be subject to any potential radiation levels will be excavated and thoroughly screened prior to any construction activities. Any levels above the established safe criteria will be removed/isolated in order to obtain a safe working environment.

This plan meets the requirements of OSHA 29 CFR 1910.120, Hazardous Waste Operations and Emergency Response, and applicable subparts of OSHA 29 CFR 1926, 1910 and 10 CFR-Visitors will be required to review the health and safety plan and read and sign the visitor information sheet (Figure 1.1).

Scope of Work

This work is being conducted to check the property for the potential for thorium impacts. Thorium has been found at several sites two blocks south of this site. Although past surface and downhole (through borings) have not identified any residual impact, the US EPA requests that the surveying work be completed for the fill materials at the site

The site consists of an area bounded by McClurg Court to the east, Ontario Street to the south and Erie Street to the north with a parking structure to the west. Site dimensions are 305 x 218 feet (66,490 ft2). All utilities have been removed and disconnected from the site. All structures will be removed to grade at the site by the current demolition contractor; however certain other sub-grade structures such as existing caissons will have to drilled around.

Boring and Surveying Entire Site

Driller will install a total of 328 borings (see attached boring plan) in 70 grid areas (10 meters square) with each area containing 5 borings (only two on the eastern edge). Two standard rigs will be provided simultaneously with an extra laborer provided to set and pull casings and to fill in borings. Borings will be advanced to the top of native soils, which is typically around 20 feet below ground surface (bgs). The water table is located at approximately 14 feet bgs. Soils at the site consist of typical Chicago fill materials consisting of bricks, cinders, sand, glass, wood and other debris. All soils generated from the boring will be temporarily stockpiled adjacent to the boring. After drilling, a three-inch solid PVC casing with end plugs will be temporally installed in each boring. After setting each casing and placing a counterweight on the casing to keep it from floating (since installed 5-6 feet within water table), driller will move to the next

boring and repeat the procedure. Driller will provide 24 three-inch diameter and 20-foot long casings to be used by the drilling crews.

Once each boring point is surveyed through the installed casing at one-foot intervals by GaiaTech and/or RSSI, the casing will be pulled from the boring for re-use at another boring location. After surveying the soils in the temporary soil pile adjacent to the boring, the soils will be returned to the boring.

If impact is found by with the downhole survey meter, the boring location will be marked for future drilling adjacent to the boring with a Geoprobe rig. Soils in the temporary soil pile adjacent to the boring will be checked to see if soils are impacted. If impacted soils are found the soils will be shoveled into a super sack container provided by GaiaTech. GaiaTech will handle all disposal arrangements.

Assumptions

- This project will utilize two rigs working simultaneously until the end of the project.
- Drilling contractor will provide portable toilet during all drilling activities.
- If significant obstructions are found where the auger cannot penetrate, borings will be relocated to another location within the established grid system.
- GaiaTech will setup drilling grid and boring locations
- No electrical power or water is available at the site.
- Assume all borings are installed to a 20 foot depth.
- Driller may need and extra person to pull out casings and to backfill borings

2.0 SAFETY MANAGEMENT

The following safety management structure will be utilized for the implementation, administration, and monitoring of the HASP.

2.1 HEALTH AND SAFETY COORDINATOR

The Health and Safety Coordinator (HSC) shall assume overall responsibility for the HASP. The HSC or designee shall monitor and maintain quality assurance of the HASP until project completion. Principal duties of the HSC include:

- Review project background data,
- Approve all HASP modifications,
- Administer and enforce the HASP,
- Evaluate the adequacy of personal protective equipment (PPE) to be used by Site personnel,
- Conduct required on-site training except tailgate safety meetings that will be conducted by the Field Team Leader,
- Brief visitors on work Site conditions, and
- Administer personnel and ambient air monitoring procedures.

The HSC or designee has the authority to stop work in the event conditions develop which pose an unreasonable risk to Site personnel or persons in the vicinity.

3.0 PERSONNEL RESPONSIBILITIES

The HSC or designee will administer and supervise the HASP at the work-site level. He will monitor all operations and will be the primary on-site contact for health and safety issues, and will have full authority to stop operations if conditions are judged to be hazardous to on-site personnel or the public.

The HSC will brief all Site personnel on the contents of the HASP. Personnel will be required to review the HASP, and have the opportunity to ask questions about the planned work or hazards. The Field Team Leader will conduct tailgate safety meetings to familiarize the Site personnel with Site conditions, boundaries, and physical hazards. Site personnel will conduct their assigned tasks in accordance with the HASP at all times.

If at any time Site personnel observe unsafe conditions, faulty equipment or other conditions, which could jeopardize personnel health and safety, they are required to immediately report their observations to the HSC or Field Team Leader.

Work zones will be established at the Site. These zones include clean/support zones, decontamination zones, and exclusion zones with markings of "caution" tapes. Exclusion zones will be established as necessary within the RAC and the ROW during subsurface excavation activities. Although the clean/support zones are anticipated to remain fixed, other zones will move about the Site as excavation work progresses.

4.0 HAZARD ASSESSMENT

The following represents potential hazards associated with this project.

4.1 PRINCIPAL CONTAMINANTS (KNOWN OR SUSPECTED)

- Thorium
- Uranium
- Radium (Rn-220 and Rn-222)
- Radon
- Other compounds within the fill materials may include elevated Polynuclear aromatic hydrocarbons (PNAs) or metals (lead, mercury and arsenic)

The contaminants are present in the soil at low concentrations. These primary routes of entry to the body will be considered:

ROUTE	ENTRY MADE VIA:
Inhalation	Airborne dust containing heavy metal radionuclides.
Ingestion	Airborne dust containing heavy metal
radionuclides/contaminants	Improper or poor personal hygiene practices.
Eye and Skin	Direct contact with contaminants.
	Improper or poor personal hygiene practices.
	Airborne dust containing heavy metal/radionuclides.
	Cuts and abrasions.
Direct Exposure	Penetrating gamma radiation in air and soil.

4.2 PHYSICAL HAZARDS

Before field activities begin, the HSC will conduct a Site reconnaissance to identify any real or potential hazards created from Site activities. Physical hazards inherent to construction activities and power-operated equipment may exist.

4.2.1 Heat Stress

Field activities in hot weather create a potential for heat stress. The warning symptoms of heat stress include fatigue; loss of strength· reduced accuracy, comprehension and retention; and reduced alertness and mental capacity. To prevent heat stress, personnel shall receive adequate water supplies and electrolyte replacement fluids, and maintain scheduled work/ rest periods.

The Field Team Leader or designee shall continuously visually monitor personnel to note for signs of heat stress. In addition, field personnel will be instructed to observe for symptoms of heat stress and methods on how to control it. One or more of the following control measures can be used to help control heat stress:

- Provision of adequate liquids to replace lost body fluids. Employees must replace' body fluids lost from sweating. Employees must be encouraged to drink more than the amount required to satisfy thirst, 12 to 16 ounces every half-hour is recommended. Thirst satisfaction is not an accurate indicator of adequate salt and fluid replacement. Replacement fluids can be commercial mixes such as Gatorade.
- Establishment of a work regimen that will provide adequate rest periods for cooling down. This may require additional shifts of workers.
- Breaks should be taken in a cool and shaded rest area (77 degrees is best).
- Employees shall remove impermeable protective garments during rest periods.
- Employees shall not be assigned other tasks during rest periods.
- All employees shall be informed of the importance of adequate rest, acclimation, and proper diet in the prevention of heat stress.

4.2.2 Cold Stress

Persons working outdoors in temperatures of 40 degrees and below may suffer from cold exposure. During prolonged outdoor periods with inadequate clothing, effects of cold exposure may even occur at temperatures well above freezing. Cold exposure may cause severe injury by freezing exposed body surfaces (frostbite) or result in profound generalized cooling, possibly causing death. Areas of the body which have high surface area-to-volume ratios such as fingers, toes and ears are the most susceptible to frostbite.

Two factors influence the development of a cold injury: ambient temperature and the velocity of the wind. Wind chill is used to describe the chilling effect of moving air in combination with low temperature. For instance, 10' F with a wind of 15 miles per hour (mph) is equivalent in-chilling effect to still air at -18°F.

As a general rule, the greatest incremental increase in wind chill occurs when a wind of 5 mph increases to 10 mph. Additionally, water conducts heat 240 times faster than air. Thus, the body cools suddenly when external chemical-protective equipment is removed if the clothing underneath is perspiration-soaked.

Local injury resulting from cold is included in the generic term "frostbite". There are several degrees of damage. Frostbite of the extremities can be categorized into:

- Frost nip or incipient frostbite: Characterized by sudden blanching or whitening of skin.
- Superficial frostbite: Skin has a waxy or white appearance and is firm to the touch, but tissue beneath is resilient.
- Deep frostbite: Tissues are cold, pale, and solid; extremely serious injury.

Prevention of frostbite is vital. Keep the extremities warm. Wear insulated clothing as part of one's protective gear during extremely cold conditions. Check for symptoms of frostbite at every break. The onset is painless and gradual - you might not know you have been injured until it is too late.

To administer first aid for frostbite, bring the victim indoors and re-warm the areas quickly in water 95° to 100°F. Give individual a warm drink - not coffee, tea, or alcohol. The victim should not smoke. Keep the frozen parts in warm water or covered with warm clothes for 30 minutes, even though the tissue will be very painful as it thaws; then elevate the injured area and protect it from injury. Do not allow blisters to be broken. Use sterile, soft, dry material to cover the injured areas. Keep victim warm and get immediate medical care.

4.2.3 Electrical Hazards

Overhead power lines, downed electrical wires, buried cables and improper use of electrical extension cords can pose a danger of shock or electrocution. All Site personnel should immediately report to the Field Team Leader any condition that could result in a potential electrical hazard.

The Field Team Leader will notify Site personnel during the safety meetings of the locations of known underground cables and utilities.

4.2.4 Noise Hazard

Operation of equipment may present a noise hazard to workers. Site personnel will utilize hearing protection when noise levels are determined to be in excess of 29 CFR 1910.95 requirements. The Field Team Leader will perform noise monitoring to determine noise levels.

4.2.5 Overt Chemical Exposure

Typical response procedures include:

SKIN CONTACT:
Use copious amounts of soap and water. Wash/rinse affected area thoroughly, and then provide appropriate medical attention. Eyewash will be provided on-site by contractor at the work zone and support zone as appropriate. If affected, eyes should be continuously flushed for a minimum of 15 minutes.

INHALATION:
Move to fresh air and transport to hospital. Decontaminate as other actions permit.

INGESTION:
Transport to emergency medical facility. Decontaminate as permitted by other requirements.

PUNCTURE WOUND OR LACERATIONS:
Transport to emergency medical facility. Field Team Leader will provide Material Safety Data Sheets (MSDS) to medical personnel as requested. Decontaminate as permitted by other requirements.

4.2.6 Adverse Weather Conditions

In the event of adverse weather conditions, the Field Team Leader will determine if work can continue without endangering the health and safety of field workers. Some items to be considered before determining if work should continue are:

- Potential for heat stress and heat-related injuries.
- Potential for cold stress and cold-related injuries.
- Treacherous weather-related working conditions.
- Limited visibility.
- Potential for electrical storms or high winds.

4.3 MEDICAL EVALUATION AND SURVEILLANCE PROGRAM

All field project personnel shall receive a medical evaluation in accordance with 29 CFR 1910.120. Personnel who receive a medical evaluation will be notified by the medical contractor as to the outcome of their evaluation. This will be in the form of a confidential report addressed to the individual and will contain a breakdown of the clinical findings. In addition, it will indicate any areas of concern, which would justify further medical consultation by the individual's personal physician. In the event that the areas of concern are of a severe nature, a follow-up notification will be made to the individual by the medical consultant to answer any questions the employee may have.

4.3.1 Dosimetry/Personnel Monitoring

All project personnel that will be working in an area where soils were found to be in excess of the threshold limit, especially during any remedial activities, will participate in a dosimetry program administered by the Project Health Physics Personnel. The dosimetry program shall comply with 32 IAC 340 (i.e. dosimeters shall be processed by a dosimetry processor accredited by the National Voluntary Laboratory Accreditation Program). The Project Health Physics Personnel shall maintain records of all radiation exposures incurred by field personnel including all contractors. These records will be maintained in an up-to-date manner to comply with the requirements of 321AC 340.4010. The HSC shall review the results of personal exposure monitoring to determine compliance with exposure limit requirements.

4.3.2 Requirement for Dosimetry

Personal dosimetry is required for anyone who enters a work area (remedial area or area containing soils in excess of the threshold limit) within the Site in which he/she may receive in one calendar year a dose in excess of 10% of the limits in 32 IAC 340. Any person who works in a radiation area will be required to have a personal dosimeter. As a matter of policy, all individuals shall be required to use a dosimeter (either self-reading type, film badge or Thermoluminescence Detector (TLD)) whenever they enter the Exclusion Zone.

4.3.3 Bioassay

Bioassay is the determination of the types and amounts of radioactive materials, which are inside the body. By analyzing the rate of deposition, the rate of excretion, and any other available information regarding placement in the body, internal exposures from radioactive materials can be estimated.

Bioassays are not anticipated to be required for the excavation and removal activities proposed, based on levels documented as present. The determination of the need for bioassay will be based on dosimetry monitoring and review and recommendations from the Project Health Physics personnel.

4.3.4 Emergency Medical Treatment

Emergency first aid should be administered on-site as appropriate. An emergency first-aid station will be established and will include a first-aid kit for onsite emergency first

aid. The individual should be decontaminated if possible, depending on the severity of the injury, and transported to the nearest medical facility, if needed.

Treatment of the injury is of primary concern and decontamination a secondary concern. Levels of radioactive contamination at the Site could be acutely hazardous if decontamination is not undertaken during an emergency situation. The Field Team Leader will complete the appropriate incident report, if warranted. See Section 4.4, Accident and Incident Reporting.

Provisions for emergency medical treatment shall be integrated with the following guidelines:

- At least one individual qualified to render first aid and Cardiopulmonary Resuscitation (CPR) will be assigned to each shift.
- Emergency first aid stations in the immediate work vicinity.
- Conspicuously posted phone numbers and procedures for contacting ambulance services, fire department, police, and medical facilities.
- Maps and directions to medical facilities.
- Conspicuously posted evacuation routes and gathering area locations shall be posted around the Site.

4.4 ACCIDENT AND INCIDENT REPORTING

All accidents, injuries, or incidents will be reported to the HSC. This accident/ incident will be reported as soon as possible to the employee's supervisor. The Field Team Leader will complete an Accident/Incident Form, and a copy will be forwarded to the Project Manager. A copy of the form is shown as Figure 4.1.

5.0 TRAINING

All Site personnel shall be trained and certified in accordance with 29 CFR 1910.120.

5.1 PROJECT- AND SITE-SPECIFIC TRAINING

Prior to project start-up, all assigned personnel shall receive an initial project- and site-specific training session. The training will include a discussion of radiation basics. This training shall include, but not be limited to, the following areas:

- Review of the Health and Safety Plan;
- Review of applicable radiological and physical hazards;
- PPE levels to be used by Site personnel;
- Site security control;
- Emergency response and evacuation procedures;
- Project communication;
- Required decontamination procedures;
- Prohibited on-site activities;
- Instructions to workers in accordance with 10 CFR 1912; and
- U.S. NRC Regulatory Guide 8.13 and Declared Pregnant Woman Policies (Females).

5.2 VISITOR ORIENTATION

All non-essential personnel and visitors who plan to enter the exclusion zone will be briefed on the HASP requirements and 10 CFR 1912 requirements prior to entry with a trained Site escort. In addition, female visitors will be instructed regarding U.S. NRC Regulatory Guide 8.13 and Declared Pregnant Woman Policies.

5.3 SAFETY TAILGATE MEETINGS

Before the start of the workweek, on Monday morning, the Field Team Leader will assemble the Site personnel for a brief safety meeting. The purpose of these meetings will be to discuss project status, problem areas, conditions, safety concerns, PPE levels and to reiterate HASP requirements. The Field Team Leader will complete a Safety Meeting Report (Figure 5.1) to indicate the contents of the meeting and the attendees.

5.4 FIRST AID

At least one (1) individual, trained and qualified to administer first aid and CPR in accordance with American Red Cross requirements, will be present at the Site.

5.5 SAFE WORK PERMIT

Site workers in special work conditions such as confined space, hot work, trenching, or other physical hazards, must be skilled at such work and trained to recognize these as special work conditions. Confined space is defined by OSHA in CFR 1910.146. Section 13 of this HASP

contains further information on the confined space program to be followed. Site workers will be provided with work permit by the HSC.

6.0 COMMUNICATIONS

6.1 GENERAL COMMUNICATIONS

The Field Team Leader will have available at the Site the means for telephone communications, or an equivalent means of communication, for summoning emergency assistance from the fire/ambulance and police departments in the event they are required. The telephone will also act as a direct link to technical personnel for information pertaining to all phases of the project.

6.2 RADIO/TELEPHONES

Short-range walkie-talkies or cellular telephones will be made available to designated personnel working at the Site.

6.3 EMERGENCY WARNING

In the event of an emergency condition, the Field Team Leader will notify project personnel verbally if all are within immediate hearing and via a bullhorn if the Site area is large. The Field Team Leader will also notify visitors present within the area. Site personnel will immediately proceed to a pre-designated assembly area as designated by the Field Team Leader during the daily safety meeting. Personnel will remain in the designated area until further instructions are received by the Field Team Leader.

All communication equipment will be tested at the beginning of each day to verify operational integrity.

6.4 HAND SIGNALS

Hand signals will be used by field teams in conjunction with the buddy system. Hand signals shall be familiar to the entire field team before operations commence and should be reviewed during site-specific training.

Signal	Meaning
Hand gripping throat	Out of air; can't breathe
Grip partner's wrist	Leave area immediately; no debate
Hands on top of head	Need assistance
Thumbs up	OK; I'm all right; I understand
Thumbs down	No; negative

6.5 SITE SECURITY

Visitors and other non-essential personnel may enter the Site only upon authorization by the Field Team Leader. This restricted access will ensure that the Field Team Leader can communicate with each person authorized to enter the work area.

7.0 PERSONNEL EXPOSURE AND AIR QUALITY MONITORING

7.1 AIR QUALITY (DUST)

Due to the nature of the principal contaminants associated with the project, dust suppression will be important as a means of minimizing exposure levels and off-site migration of contaminants. Per USEPA protocols there will be no visible dust generated during the activities. The Field Team Leader will routinely monitor the Site. The OSHA personal exposure limit (PEL) for nuisance dust is 15 mg/m3.

7.2 AIRBORNE RADIOACTIVITY MONITORING

Monitoring for airborne radioactivity exposure is as important as monitoring for external radiation exposure. Monitoring for airborne radioactivity exposure requires the following elements:

- Air sampling for radioactive particulates,
- Record keeping regarding personnel work locations and time in location, and
- Respiratory protective equipment records regarding devices used by workers in airborne radioactivity areas.

By closely monitoring these three elements, a continuous record of personnel exposure to airborne radioactivity is maintained.

Monitoring of potential worker exposure to radiation will be done using dosimeters (film badges) and personal air sampling equipment, as warranted. Individual dosimeters will be analyzed at the conclusion of discrete field efforts or mobilizations to the site. It is expected that naturally occurring radon and thorium daughters will interfere with analyses. Additional evaluation of samples shall be performed if it is determined to be necessary based upon elevated results. Such analyses shall be performed after allowing time for decay of some interfering radionuclides. Filters used in personal air monitoring equipment will be analyzed for radioactive elements (radionuclides) at a frequency of one per week during the cleanup of radiologically impacted material. This analysis will be performed on a 24 to 48-hour laboratory turnaround basis by RSSI of Morton Grove, Illinois

Downwind monitoring of the excavation areas for radioactive particulate activity also will be performed if radiation "hot spots" are detected. If required, radiation contractor will ensure that high volume air samplers are setup and run continuously during operations and be evaluated on a daily basis for total radium. Comparisons will be made Federal Regulations and to 32 IAC 340 Appendix A if more restrictive to ensure that adequate radiological controls are in place for workers and the general public. As low as reasonably achievable (ALARA) concepts will be utilized when considering protective measures to ensure that internal exposures are minimized, while also considering the effects of such protective measures with respect to external exposures. Controls on the Site, such as wetting of soils and procedural changes, will be employed prior to the prescription of respiratory protective equipment.

Time decay of interfering nuclides generally refers to radon-222 decay and daughters but may also include thorium decay. The specific times for decay of samples are best addressed in procedures rather than in the health and safety plan. Air samples will be decayed a minimum of 5

hours to allow for counting without interference from radon222 and its daughters. Thorium (Rn-220), if present in significant amounts, will require decay for up to 4 days to allow for decay of it is Pb-212 daughter (10.6 hour half life).

After filters have been collected and decayed overnight, there will be a morning count by the lab of the filter that will serve to identify high gross counts for the previous day. Filters used in high volume air monitoring will be analyzed for radioactive elements (radionuclides) at a frequency of one per week during the cleanup of radiologically impacted material. This analysis will be performed on a 24 to 48-hour laboratory turnaround basis by a qualified laboratory. Results will alert health and safety staff of a potential problem, which they can investigate more promptly. The total radium count, after 4 days decay, will serve to be the official measurement of Th-Alpha.

7.3 INTERNAL MONITORING

Internal monitoring to determine intakes of radioactive material will be performed as needed based upon the results of the air-sampling program. Bioassay methods to be considered should include in-vivo, as well as in-situ, assessments. Routine bioassay of workers is not anticipated based upon the low concentrations of radioactivity in soils to be excavated.

7.4 EXTERNAL RADIATION MONITORING

External radiation monitoring of workers will be performed using film badges or thermoluminescent dosimeters. Dosimetry will be provided and processed by a service holding National Voluntary Laboratory Accreditation Program (NVLAP) certification. Pocket dosimeters may also be utilized for visitors and other infrequent personnel requiring access to the Site.

7.5 RADIOLOGICAL SURVEYS

Radiological surveys will be performed to ensure that radiation levels and contamination levels are within regulatory limits for workers and the general public. Radiation surveys will consist of ambient gamma surveys using sodium iodide detector or others, as appropriate.

7.6 CONTAMINATION MONITORING

Samples shall be obtained periodically in the Site to ensure that radioactivity is present at acceptable levels and is prevented from leaving the Site. Decontamination of elevated areas will be performed to maintain contamination at levels at regulatory levels (NRC 1.86 level or IDNC if more restrictive) as well as to ALARA.

Before leaving the exclusion zone, Site personnel shall be checked through use of a hand-held frisker to ensure that contamination is not present on skin or clothes. The Field Team Leader will be immediately informed regarding any contamination on individuals and will initiate appropriate decontamination techniques. Proper disposition of contaminated personal effects and clothing also will be the responsibility of the Field Team Leader.

7.7 ACTION LEVELS

7.7.1 Radiological Action Levels

Radiological action levels for on-site workers will be determined by a Ludlum Model 3 with a Geiger-Mueller (GM) pancake detector. If deemed necessary by a Health physicist, airborne particulate monitoring may also be conducted to monitor the presence of radioactivity. The Field Team Leader will initiate or direct any radiological monitoring. The radioactive contamination on the Site is generally particulate and insoluble in water. It is anticipated that in most cases there will be no fixed contamination on the workers. Action levels as determined by radioactive monitoring can be found in Table 7.1. Any actions at the site will also be based on gamma exposure rates.

To minimize the need for upgrade of personal protection equipment due to airborne contamination, engineering controls such as the use of water to minimize dust levels will be implemented as necessary during excavation and restoration activities.

8.0 PERSONAL PROTECTIVE EQUIPMENT

It is anticipated that most excavation activities in designated exclusion zones can be conducted in Level D personal protective equipment (PPE), with a contingency upgrade to Level C, based on the action levels listed in Section 7. Level C will be used when required by Special Work Permits, or when directed by the Field Team Leader.

Modified Level D personal protective clothing and equipment for excavation activities includes:

- Tyvek Coveralls
- Hard hat
- Chemical resistant, OSHA approved safety shoes/boots
- Surgical Gloves
- Safety glasses
- Dust mask (optional)
- Booties

Level C protective clothing and equipment includes:

- Full-face air-purifying respirator (NIOSH/MSHA approved) fitted with radionuclides/ HEPA cartridges and/or organic vapor cartridges, depending on which action levels are exceeded (see Section 7 of s HASP)

- Coveralls
- Tyvek coveralls - required in areas when splashing by contaminated soils or water is a possibility
- Cotton or leather gloves
- Disposable latex inner gloves - required in areas when splashing by contaminated soils or water is a possibility
- Nitrile outer gloves (taped) - required in areas when splashing by contaminated soils or water is a possibility
- Chemical-resistant steel toe boots
- Hard hat

Action levels used to determine the need to upgrade or downgrade the levels of protection are described in Section 7.0 of this HASP

9.0 CONTAMINATION REDUCTION PROCEDURES

9.1 EQUIPMENT

Portable equipment will be decontaminated with soap and water and rinsed with tap water. Heavy equipment will be steam-cleaned with water and, if necessary, a detergent solution. It is not anticipated that chemical cleaning will be necessary for decontamination.

9.2 PERSONNEL

If levels of radioactivity show that individuals can remove coveralls and other personal protective clothing and equipment before leaving the work-site and, thus complete decontamination, the individuals may leave the Site. If, however, levels of radioactivity show that individuals cannot achieve decontamination by the removal of coveralls and showering is required, they will be dressed in clean coveralls, boots and gloves and be transported to Northwestern Memorial Hospital to complete decontamination.

If substantial skin contamination occurs on an individual working with radioactive materials, the following specific procedures should be followed to prevent fixation of the material in the skin or absorption of the radioactivity through the skin. Numerical action criteria are listed in attached Table 7.1.

Immediate Action: Notify the HSC or Field Team Leader, who will supervise the decontamination. If contamination is spotty, the HSC or Field Team Leader will supervise the cleaning of the individual spots with swabs, soap, or water. If the contamination is general, the HSC or Field Team Leader may recommend washing the area gently in warm or cool water (not hot) using hand soap (not detergent) for one minute. Rinse, dry, and monitor for radioactivity. This soap wash step may be repeated three times.

Evaluation: If the above procedure fails to remove all the skin contamination, the treatment should cease. An evaluation of the skin contamination should be performed by the HSC or Field Team Leader including an estimate of the dose commitment to the skin, and the quantity and identity of the nuclides contaminating the skin. If additional decontamination steps are necessary, they are performed and documented by the HSC. The guidelines for Personnel Decontamination in the Radiological Health `Handbook, HEW 1970, beginning on page 194, can be used as applicable. CAUTION: Do not use chemicals for personnel decontamination until full evaluation of the contamination is made by the HSC or Field Team Leader.

9.3 CONTAMINATION PREVENTION

Work practices that minimize the spread of contamination will reduce worker exposure and help ensure valid sample results by precluding cross-contamination. Procedures for contamination avoidance include:

- knowing the limitations of all personal protective equipment being used
- avoiding walking through areas of obvious or known contamination
- refraining from handling or touching contaminated materials directly. Do not sit or lean on potentially contaminated surfaces

- ensuring personal protective equipment has no cuts or tears prior to donning
- fastening all closures on suits, covering with tape if necessary
- taking steps to protect against any skin injuries
- staying upwind of airborne contaminants
- When working in contaminated areas, refraining from eating, chewing gum, smoking, or engaging in any activity from which contaminated materials may be ingested.

9.4 DISPOSAL PROCEDURES

All discarded materials, waste materials, or other field equipment and supplies should be handled in such a way as to preclude the spread of contamination, creating a sanitary hazard, or causing litter to be left on-site. All potentially contaminated waste materials (e.g., clothing, gloves) shall be monitored, and placed in the metal container provided by Kerr-McGee that designated for radioactive waste. Appropriate labels shall be affixed to all containers of radioactive materials.

10.0 GENERAL WORK PRECAUTIONS

10.1 GENERAL WORK PRECAUTIONS

The following general work precautions apply to all Site personnel.

- Eating, drinking, chewing gum or tobacco, smoking, or any practice that increases the probability of hand-to-mouth transfer and ingestion of material is prohibited in the work area.
- Hands and face must be thoroughly washed upon leaving the work area. Wash water will be provided at the Site for this purpose.
- Whenever levels of radioactivity warrant, the entire body should be thoroughly washed, as soon as possible, after the protective coveralls and other clothing are removed as part of the decontamination process.
- No facial hair that interferes with a satisfactory fit of the mask-to-face-seal is allowed on personnel required to wear respirators.
- Contact with contaminated or suspected contaminated surfaces should be avoided. Whenever possible, do not walk through puddles, Leachate, discolored surfaces, kneel on ground, lean, sit, or place equipment on drums, containers, or the ground.
- Medicine, drugs and alcohol may interfere with or impair judgment and reaction times. Therefore, usage of prescribed drugs must be specifically approved by a qualified physician and made known to the Field Team Leader prior to an individuals' presence on the work-site. Alcoholic beverage intake is strictly prohibited at the Site and prior to work.
- All personnel must be familiar with standard operating procedures and any additional instructions and information contained in the HASP.
- All personnel must adhere to the requirements of the HASP.
- Contact lenses are not permitted when respiratory protection is required or where the possibility - of a splash exists.
- Personnel must be cognizant of symptoms for heat stress and cold stress, and knowledgeable regarding emergency measures contained in the Emergency Plan.
- Respirators shall be inspected, cleaned and disinfected after each day's use or more often, if necessary.
- Each employee shall be familiar with his/her company's Respiratory Protection Program.

Any radioactive or potentially radioactive PPE, decon water and other items will be placed in the designated Kerr-McGee supplied container for proper disposal.

10.2 OPERATIONAL PRECAUTIONS

The following operational precautions must be observed at all times.

- All Site personnel shall be adequately trained and thoroughly briefed on anticipated hazards, equipment to be worn, safety practices to be followed, emergency procedures, and communications.
- All required respiratory protective devices and clothing shall be worn by all personnel going into areas designated for wearing protective equipment.
- All Site personnel shall use the buddy system when wearing respiratory protective equipment. At a minimum, a third person, suitably equipped as a safety backup, is required.
- During continual operations, on-site workers act as a safety backup to each other. Off-site personnel provide emergency assistance.
- Personnel should practice any unfamiliar operations prior:-to undertaking the actual procedure.
- Entrance and exit locations shall be designated and emergency escape routes delineated. Warning signals for Site evacuation must be established.
- Personnel and equipment in the Site should be minimized, consistent with effective Site operations.
- Work areas for various operational activities shall be established.
- Procedures for leaving a contaminated area shall be planned and implemented prior to going on-site. Work areas and decontamination procedures shall be established based on expected Site conditions.
- Frequent and regular inspection of Site operations will be conducted by the HSC to ensure compliance with the HASP. If any changes in operation occur, the HASP will be modified to reflect those changes.

11.0 SANITARY FACILITIES

11.1 POTABLE WATER

a. An adequate supply of potable drinking water shall be maintained at all times immediately outside the Site. Drinking water shall meet all federal, state and local health
b. Drinking water shall be supplied to project personnel via approved dispensing sources.
c. Paper cups shall be permitted for the drinking of potable water supplies.
d. Drinking water dispensers shall be clearly marked and shall, in no way, have the potential for contamination from non-potable supplies.
e. Site personnel must be fully decontaminated prior to approaching the drinking water

11.2 TOILET FACILITIES

a. Adequate toilet facilities shall be provided at the Site.
b. These facilities shall be in the form of portable chemical toilets.
c. Routine servicing and cleaning of the toilets should be established with the selected contractor and shall be in accordance with federal, state, and local health regulations.
d. Site personnel must be fully decontaminated prior to approaching the toilet facilities.

11.3 WASHING AREAS

a. Adequate washing areas shall be provided for personal use within the work area.
b. Washing areas shall be maintained in a sanitary condition and will be provided with adequate supplies of soap towels for drying, and covered waste receptacles.
c. Washing areas shall be maintained and sanitized daily.
d. No eating, drinking or smoking shall be permitted in the work area. This policy will be strictly enforced by the Field Team Leader.

12.0 FIRE CONTROL EQUIPMENT

An adequate number of approved portable fire extinguishers (class rated A, B and C) shall be readily available at the Site at all times.

All Site personnel shall be trained in the use of the extinguishers. Extinguishers shall only be used on outbreak stage fires or fires of minor nature. The local fire department shall be contacted in the event of a larger fire.

13.0 CONFINED SPACE PROGRAM

13.1 PURPOSE

In the event that confined space work is a necessity, a Confined Space Program will be implemented. Training in the recognition of confined spaces is a component of the health and safety training program.

The purpose of the Confined Space Program is to establish procedures to protect personnel from this serious hazard in the course of their work, and at a minimum, to comply with 29 CFR OSHA 1910.146. This document assigns responsibilities and sets standards for personnel engaged in activities where confined spaces may be present.

13.2 RESPONSIBILITIES

13.2.1 Health and Safety Coordinator

The Health and Safety Coordinator (HSC) administers the Confined Space Program. The Health and Safety Coordinator's responsibilities include:

- Review of the HASP for potential confined space hazards and design alternative approaches to accomplish the confined space tasks;
- Coordinating and managing the Confined Space Program in the event one is required;
- Establishing priorities for implementation of the program;
- Assisting with recognition and implementation of the Confined Space Program;
- Advising project management on confined space issues; and
- Communicating the Confined Space Program to personnel by training related to specific Site activities.

13.2.2 Project Manager

The Project Manager (PM) directs the application of the Confined Space Program to project work. The Project Manager is responsible for:

- Working with the Health and Safety Coordinator to prepare information describing activities that might be conducted in a confined space area;
- Assuring that all personnel engaged in project activities are familiar with the definition of a confined space;
- Assuring that personnel are familiar with the Confined Space Program, and that project activities are conducted in compliance with the Confined Space Program;
- Assuming the responsibilities of the Field Team Leader if another person is not assigned these responsibilities.

13.2.3 Field Team Leader

The Field Team Leader (FTL) is responsible for the implementation of the Confined Space Program on-site during field activities. The Field Team Leader is responsible for:

- Overseeing implementation of the Confined Space Program during field operations; and

- Reporting confined space work activity, and any violations of the Confined Space Program, to the Project Manager and the Health and Safety Coordinator.

13.2.4 Personnel

Personnel are responsible for:

- Familiarizing themselves with the Confined Space Program and following it;
- Becoming familiar with the criteria for determining a confined space, and with the permitting, and other requirements of the program; and
- Reporting immediately a confined space condition to the Field Team Leader.

13.3 DEFINITION OF A CONFINED SPACE

Confined space means a space that

1. Is large enough and so configured that an employee can bodily enter and perform assigned work
2. Has limited or restricted means for entry or exit (such as pits, storage bins, hoppers, crawl spaces, and storm cellar areas)
3. Is not designed for continuous employee occupancy

Any workspace meeting all of these criteria is a confined space and the Confined Space Program must be followed.

13.4 CONFINED SPACE ENTRY PROCEDURES

13.4.1 Safety Work Permit Required

All spaces shall be considered permit-required confined spaces until the pre-entry procedures demonstrate otherwise. The Confined Space Entry Permit (Figure 13.1) for entry into a confined, space must be completed before work begins; it verifies completion of the items necessary for confined space entry. The Permit will be kept at the Site for the duration of the confined space work If there is an interruption of work, or the alarm conditions change, a new Permit must be obtained before work begins.

A permit is not required when the space can be maintained for safe entry by 100% fresh air mechanical ventilation. This must be documented and approved by the Health and Safety Coordinator. Mechanical ventilation systems, where applicable, shall be set at 100% fresh air.

The Field Team Leader must certify that all hazards have been eliminated on the Entry Permit. If conditions change, a new permit is required.

13.4.2 Pre-entry Testing for Potential Hazards

a. Surveillance

Personnel first will survey the surrounding area to assure the absence of hazards such as contaminated water, soil, sediment, barrels, tanks, or piping where vapors may drift into the confined space.

b. Testing

No personnel will enter a confined space if any one of these conditions exists during pre-entry testing. Determinations will be made for the following conditions:

1. Presence of toxic gases or dusts: Equal to or more than 5 parts per million (ppm) on the organic vapor analyzer with an alarm, above background outside the confined space area; or other action levels for specific gases, vapors, or dusts as specified in the Health and Safety Plan and the Confined Space Permit based on knowledge of Site constituents;
2. Presence of explosive/flammable gases: Equal to or greater than 10% of the Lower Explosive Limit (LEL) as measured with a combustible gas indicator or similar instrument (with an alarm); and,
3. Oxygen Deficiency: A concentration of oxygen in the atmosphere equal to or less than 19.5% by volume as measured with an oxygen meter.

Pre-entry test results will be recorded and kept at the Site for the duration of the job by the Field Team Leader. Affected personnel can review the test results.

c. Authorization
Only the Field Team Leader and the Health and Safety Coordinator can authorize any personnel to enter into a confined space. This is reflected on the Safe Work Permit for entry into a confined space. The Field Team Leader must assure that conditions in the confined space meet permit requirements before authorizing entry.

d. Safe Work Permit
A Safe Work Permit for confined space entry must be filled out by the Health and Safety Coordinator or Field Team Leader. A copy of the Safe Work Permit is included as Figure 5.2.

e. Attendants
One worker will stand by outside the confined space ready to give assistance in the case of an emergency. Under no circumstances will the standby worker enter the confined space or leave the standby position. There shall be at least one other worker not in the confined space within sight or call of the standby worker.

f. Observation and Communication
Communications between standby worker and entrant(s) shall be maintained at all times. Methods of communication that may be specified in the Safe Work Permit and the HASP may include. voice, voice by powered radio, tapping or rapping codes, signaling tugs on rope, and standby worker's observations that activity appears normal.

. .

13.4.3 Rescue Procedures

Acceptable rescue procedures include entry by a team of rescuers only if the appropriate self-contained breathing apparatus (SCBA) is available; or use of public emergency services.

The standby worker must be trained in first aid, CPR, and respirator use. A first aid kit should be on hand and ready for emergency use. The standby worker must be trained in rescue procedures. Retrieval of an unconscious victim in a confined space will only be conducted by trained rescue personnel. An emergency call to 911 will be initiated to assist the victim.

13.5 TRAINING

Personnel who will engage in field activities will be given annual training on the requirements and responsibilities in the Confined Space Program and on OSHA 1910.146. Only trained personnel can work in confined spaces. Workers should be experienced in the tasks to be performed, instructed in proper use of respirators, lifelines and other equipment, and practice emergency procedures and self-rescue.

Before each Site activity, the determination of confined space work will be part of the Site characterization process. Training in the site-specific confined space activities will be part of the site-specific health and safety training:

13.6 SAFE WORK PRACTICES

- Warning signs should be posted. These include warnings for entry permits, respirator use, prohibition of hot work and emergency procedures and phone numbers.
- Cylinders containing oxygen, acetylene or other fuel such as gasoline must be removed a safe distance from the confined space work area.
- Purging and ventilating is done before work begins to remove hazardous vapors from the space. The space should be monitored to ensure that the gas used to purge the space (e.g, tank) has also been removed. Local exhaust should be used where general exhaust is not practical.
- The buddy system is used at all times. A standby person always must be posted within sight of, or in communication with, the person inside the confined space. The standby should not enter the confined space, but instead will call for help in an emergency and not leave the post. Communication should be maintained at all times with workers inside the confined space.
- Emergency planning in the HASP and a Safe Work Permit must be approved in advance and the proper rescue equipment must be immediately available.

14.0 ELECTRICAL LOCKOUT/TAGOUT

The field Team Leader must approve all work in areas requiring lockout/tagout procedures. Specific procedures and permitting requirements will be specified in the HASP, or in a revised HASP based on the need for a worker to work around electrical equipment.

All systems must be locked out and tagged before the work begins. This includes pipes, air lines, electrical equipment and mechanical devices. The equipment must be start tested and approved for use by a worker by the Health and Safety Coordinator of the Field Team Leader by start-testing to make sure the locked-out equipment does not operate.

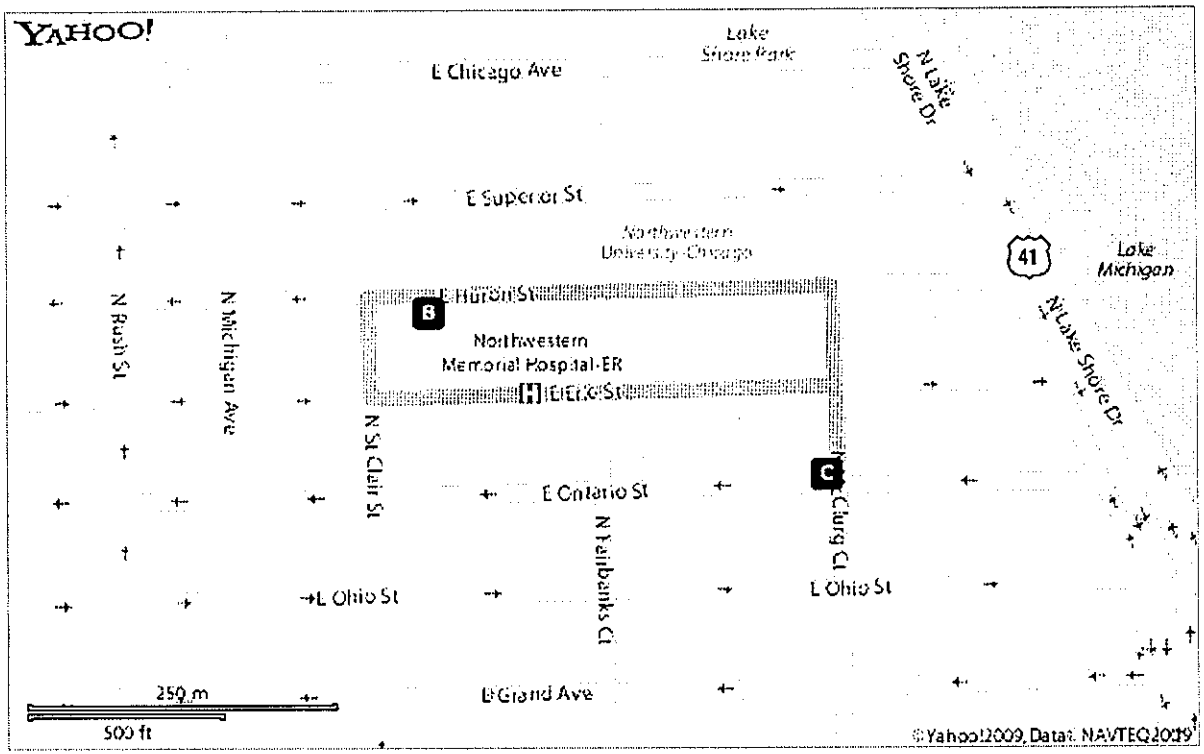
15.0 SITE SIGNATURES

Please sigh this sheet to acknowledge that you have read the Work Plan and Health and Safely Plan and understand their contents. Also sign in each day at the site.

Name	Date	
SANGHO NAM	8/10/09	Sangho Nam
Krista Ambrose	8/10/09	Krista L. Ambrose
John McMillan	8/10/09	John McMillan
Mike Duncan	8/10/09	Mike Duncan
Patrick Cox	8/12/09	Patrick Cox
Allison Peye	8/12/09	Allison Peye
Dan Perkis	8/14/09	Dan Perkis
Larry Beatsch	8/10/09	Larry Beatsch
SIMON HAYWOOD	8/17/09	Simon Haywood
Bernardo Lopez	8/17/09	Bernardo Lopez
Adam Greenwell	8/18/09	Adam Greenwell
Tyler McMillan	8/18/09	Tyler McMillan
Agustin Mendez	8/25/09	Agustin Mendez

SUPLIMENTAL RADIATION SURVEY
HEALTH AND SAFTY PLAN

FORMER CBS SITE/GHB 630, LLC
630 NORTH McCLURG COURT
CHICAGO, ILLINOIS



When using any driving directions or map, it's a good idea to do a reality check and make sure the road still exists, watch out for construction, and follow all traffic safety precautions. This is only to be used as an aid in planning.

Directions to 630 N McClurg Ct, Chicago, IL 60611-4536

YAHOO!

Total Time: 3 mins, Total Distance: 0.72 mi

		Distance
A	1. **Start at 630 N MCCLURG CT, CHICAGO going toward E ERIE ST**	go **0.1** mi
	2. Turn L on **E HURON ST**	go **0.22** mi
B	3. **Arrive at 221 E HURON ST, CHICAGO, on the L**	

Time: 1 mins, Distance: 0.33 mi

B	1. **Start at 221 E HURON ST, CHICAGO going toward N ST CLAIR ST**	go **177** ft
	2. Turn L on **N ST CLAIR ST**	go **299** ft
	3. Turn L on **E ERIE ST**	go **0.26** mi
	4. Turn R on **N MCCLURG CT**	go **249** ft
C	5. **Arrive at 630 N MCCLURG CT, CHICAGO, on the R**	

Time: 2 mins, Distance: 0.4 mi

Total Time: 3 mins, Total Distance: 0.72 mi

Appendix D

RSSI Downhole Survey Results

Client: Gaiatech Performed By: Krista Ambrose & Sangho Nam

Location: 630 N. McClurg Court Date: 08-10-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 10461

Borehole Count Rates

Depth	BH: M3	BH: R3	BH: L8	BH: O5
0	12704	13682	16797	11478
1	17387	12652	20201	11585
2	13063	8826	17989	11569
3	10377	9807	16598	7904
4	9039	10368	11549	8024
5	7642	11931	11336	7751
6	6639	14716	15370	7505
7	7185	10992	11009	7179
8	9072	7794	8426	8329
9	9377	7972	8457	9150
10	12654	11649	11302	9672
11	10815	10049	11942	10631
12	8790	10450	9371	9365
13	7708	8278	9415	9433
14	7699	7938	8382	8196
15	6932	7197	7208	7138
16	6436	6538	6760	6664
17	6018	6162	6318	6133
18	5527	5629	5897	5550
19	5777	5677	5741	5684
20	6092	6572	6183	6074
Samples collected				

Client: Gaiatech

Performed By: Krista Ambrose & Sangho Nam

Location: 630 N. McClurg Court

Date: 08-10-09 & 08-11-09

Instrument: Ludlum 2200

S/N: 69279

Probe: 44-10

Background: 10461 / 6633

Borehole Count Rates

Depth	BH: Q8	BH: V8	BH: AD9	BH: Z5
0	12399	12653	17430	11070
1	13296	15096	22952	13617
2	13545	12339	14862	12001
3	10590	11563	11665	9849
4	9370	9347	13040	8391
5	10180	10216	10378	9296
6	10971	11763	10432	11439
7	9812	10738	11046	11310
8	7727	7665	8488	8553
9	8211	7787	8271	8599
10	12321	10828	10675	10198
11	14720	12029	13046	10532
12	14164	11226	13151	10904
13	8877	10948	11304	12021
14	8593	10559	9981	12157
15	7793	8987	9244	9793
16	6931	7487	8272	8293
17	6354	6672	7358	7488
18	5653	6298	6282	6386
19	5754	6280	6555	6339
20	5887	5822	6059	6249
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-11-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6633

Borehole Count Rates

Depth	BH: V2	BH: AC2	BH: AG8	BH: AL9
0	11791	10912	12923	13993
1	13275	15655	20893	19312
2	13149	14096	17004	16799
3	11457	10873	12071	11767
4	11901	10785	11091	8654
5	11356	11313	9211	7902
6	13953	11052	10164	8745
7	9857	10520	10942	11362
8	7848	8225	9814	9821
9	8884	8511	8465	7417
10	12907	10532	9818	7676
11	11145	12450	13921	8301
12	9069	13211	11870	9138
13	8159	12754	10510	10966
14	7563	12110	10250	11104
15	7093	8709	9180	11694
16	water	7113	8367	10871
17	-	6354	7973	8859
18	-	5720	7195	6807
19	-	5628	6039	5922
20	-	5786	5868	5233
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-11-09 & 08-12-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6633 / 5611

Borehole Count Rates

Depth	BH: AJ5	BH: AG3	BH: AM2	BH: AQ3
0	10925	11611	10356	11692
1	12791	12204	13586	13305
2	12033	10931	11987	12552
3	7935	9770	10638	11018
4	6133	9385	10675	9058
5	6416	9515	10795	9542
6	10586	10659	12671	10932
7	10824	9815	10415	10027
8	8373	8890	8206	7227
9	7237	12071	7077	7208
10	9977	16338	8739	9299
11	10713	13963	10229	11267
12	11696	12812	13121	11489
13	11715	10573	11917	10566
14	10728	9518	12075	10660
15	8558	7977	10972	8836
16	7919	7633	8785	8040
17	8354	6545	7317	6491
18	7140	5801	6128	6070
19	5654	5301	5762	6079
20	5951	5605	5870	5646
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-12-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 5611

Borehole Count Rates

Depth	BH: AW2	BH: AT5	BH: AP9	BH: AV8
0	9101	11109	9347	9574
1	11300	12787	14170	11772
2	11129	11895	15526	11678
3	8269	9929	12301	8011
4	7690	9578	9107	7447
5	8351	9621	8777	9325
6	8627	10371	9304	11215
7	10117	12620	11976	10348
8	11325	10951	9933	9024
9	8083	8736	8912	7949
10	9027	11388	11660	10752
11	9193	15887	12062	17618
12	8621	11805	11252	18096
13	9707	11850	10685	9798
14	10421	10646	12452	8697
15	8921	10876	12642	7766
16	7902	8893	9509	7952
17	6958	8537	8364	7438
18	6270	7222	7447	6275
19	5593	6235	6206	5756
20	5553	5954	5994	5723
Samples collected				

Client: Gaiatech

Performed By: Sangho Nam & Krista Ambrose

Location: 630 N. McClurg Court

Date: 08-12-09 & 08-13-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 5611 / 11253

Borehole Count Rates

Depth	BH: BA9	BH: J2	BH: C3	BH: H4
0	14159	13144	7374	15933
1	20309	20603	11432	22742
2	12499	21697	11104	21558
3	16912	11498	11844	13772
4	13276	10448	11767	14271
5	11026	10243	11990	13107
6	10581	9072	12552	8850
7	10516	8292	11640	7256
8	9552	6788	12421	8591
9	8155	7092	11559	8006
10	9854	8899	8829	9404
11	12109	9773	10847	9460
12	12561	10377	14066	9388
13	11625	9426	11516	9375
14	14637	7514	8864	7999
15	11530	7195	7403	7952
16	9171	6154	6684	6754
17	7817	5675	5812	6000
18	6983	5582	5287	5602
19	6062	5847	5268	5793
20	5573	6032	5945	5729
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-13-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 11253

Borehole Count Rates

Depth	BH: C9	BH: I9	BH: BB2	BH: BD4
0	19695	13010	10774	10656
1	23283	20790	12742	14621
2	15087	19034	12336	19603
3	12880	15093	14011	15783
4	11867	11372	12435	12572
5	9211	12109	9872	11226
6	9962	15207	8727	8568
7	9360	11156	9926	7568
8	7602	8964	9617	9399
9	9233	7551	9340	9518
10	10835	8128	13758	12773
11	9927	8873	11921	12737
12	8032	7756	9537	13844
13	8601	9482	9888	16242
14	7489	8560	9893	10266
15	6657	7515	11642	8530
16	6351	7104	10398	7706
17	5849	6078	8409	7399
18	5553	5683	6393	6338
19	5682	5660	5827	5993
20	6152	5844	5482	5990
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-13-09 & 08-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 11253 / 8405

Borehole Count Rates

Depth	BH: BG2	BH: BH9	BH: BN2	BH: Q12
0	9710	13529	10287	13249
1	17141	16395	14224	19553
2	16643	11340	17826	16337
3	14488	13634	14402	11806
4	13631	13729	11959	10758
5	11136	12012	12014	9033
6	9549	9793	13435	9438
7	9844	8779	11213	10579
8	9075	8231	8783	8493
9	8411	9109	8964	8148
10	12450	10519	10550	9331
11	11069	11729	12369	12225
12	8562	10808	12192	14757
13	11331	12371	11368	15283
14	10326	10452	11011	13478
15	8416	9932	12313	9935
16	8430	8855	9960	8245
17	7495	8097	8244	7369
18	6442	6932	7837	6631
19	5956	5995	-	6412
20	5817	6048	-	6781
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 8405

Borehole Count Rates

Depth	BH: L11	BH: BJ3	BH: BL5	BH: N15
0	10912	9336	9125	15283
1	17001	12902	10058	25025
2	24432	18696	14955	17264
3	16103	19002	18508	11852
4	11103	13100	16437	9930
5	10462	14260	16088	10067
6	8866	15115	15506	7742
7	9805	11405	15313	7423
8	9089	10009	15830	6846
9	8591	10996	13648	8076
10	8905	11448	9484	9752
11	10749	12513	10804	11268
12	12309	11751	13041	9951
13	10003	11268	12228	10120
14	8316	12879	11418	10019
15	8449	12835	11199	8173
16	7538	9638	10818	8610
17	7002	8225	9221	7242
18	6882	8213	7495	6935
19	5676	-	6622	6577
20	6446	-	6621	6051
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 8405

Borehole Count Rates

Depth	BH: R19	BH: BN8	BH: BJ9	BH: N23
0	23953	10565	10520	8932
1	27867	14178	13728	12447
2	14718	10543	13859	21110
3	12525	12849	11712	20005
4	16197	14205	14912	12153
5	13945	14835	12265	12624
6	11339	13568	11658	14868
7	11238	10771	10156	10041
8	7774	10155	9854	7527
9	7371	11071	9435	7133
10	8895	11730	10014	8291
11	12548	10992	10273	9104
12	14106	11426	12487	10186
13	11528	13957	12800	10465
14	11086	11589	12435	8982
15	8615	10811	10488	9487
16	8839	8574	9308	9198
17	7997	7407	8124	8519
18	7149	6873	7588	8813
19	6527	6505	6824	7632
20	6253	6309	6107	7518
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose & Roger Marsh

Location: 630 N. McClurg Court Date: 08-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 8405

Borehole Count Rates

Depth	BH: Q22	BH: AC12	BH: AC18	BH: L22
0	9140	12889	8866	10845
1	14080	16531	15973	15129
2	27634	12242	19438	20473
3	22786	9402	11535	14308
4	14436	8463	9386	12048
5	13981	8315	11185	1114
6	13766	10084	11515	11142
7	9417	11990	9015	12275
8	7887	9767	7845	9489
9	7037	7784	7006	8926
10	8313	8533	7031	12443
11	13286	11284	7935	12966
12	17204	10468	9160	11259
13	12319	11104	11091	14209
14	10007	9702	9460	12948
15	10892	9684	8873	11052
16	9787	8839	9008	9516
17	9361	8749	9581	8447
18	8892	7814	8951	7966
19	7566	-	6768	7262
20	6446	-	6151	6740
Samples collected				

Client: Gaiatech

Performed By: Roger Marsh & Sangho Nam

Location: 630 N. McClurg Court

Date: 08-14-09 & 08-17-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 8405 / 7271

Borehole Count Rates

Depth	BH: L18	BH: M29	BH: Z15	BH: V12
0	13156	9918	10606	10330
1	18150	15313	17144	12842
2	14929	13528	22399	11350
3	11966	10450	16731	10050
4	12772	10484	9207	10191
5	16075	10493	8056	10410
6	9882	10370	8906	10513
7	8959	10110	9029	10324
8	7797	11105	8328	10163
9	7099	12827	7004	9476
10	10081	12133	8758	15797
11	13781	12483	12273	22674
12	16770	14140	12979	15781
13	12412	11517	12433	13249
14	11890	11419	11926	11564
15	10976	10689	10741	9466
16	8470	8799	9055	8104
17	7917	8384	8422	7585
18	7547	8622	7666	6703
19	7864	7748	6215	6189
20	7356	7540	6336	5744
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-17-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7271

Borehole Count Rates

Depth	BH: W19	BH: W22	BH: W28	BH: Z25
0	9115	9929	11348	9955
1	12998	10940	16116	19264
2	17602	13260	16451	18166
3	12617	10402	12310	13281
4	10894	10954	14841	14692
5	12612	12132	13678	18400
6	14188	10700	9766	12401
7	10792	8827	8794	8595
8	10202	8101	7877	7336
9	7193	7237	7727	8013
10	7579	6772	9480	9931
11	10734	8534	10368	11109
12	13925	10441	10255	10335
13	12491	10630	10032	10304
14	11274	8773	11322	11518
15	11404	8394	10595	10961
16	10030	7639	10875	9675
17	8649	7454	9517	8882
18	7368	7855	9475	8659
19	6453	6821	8868	7140
20	6089	-	8452	6621
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-17-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7271

Borehole Count Rates

Depth	BH: AC22	BH: Ac28	BH: AC32	BH: AC38
0	8375	10518	11748	12613
1	14681	17929	19522	19233
2	17492	16183	13424	14206
3	10904	10810	10563	11208
4	9585	11177	11382	11007
5	10728	11471	12025	10175
6	9749	9328	10107	10933
7	10302	8970	8868	9744
8	8112	8582	9642	8951
9	7018	9631	18309	10168
10	7792	12870	18887	16379
11	10618	16124	20247	16762
12	10684	12749	23705	10133
13	8118	11058	19749	8161
14	8405	11527	12894	11058
15	8152	10635	10331	14058
16	7930	10087	11150	18258
17	7606	9486	11646	14007
18	7694	8895	10025	10041
19	6976	8643	10256	8765
20	6030	7478	9627	7999
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-17-09 & 08-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7271 / 6751

Borehole Count Rates

Depth	BH: Z35	BH: W32	BH: Q28	BH: W38
0	10319	10219	8720	10649
1	16997	15358	12070	15113
2	14745	20176	20338	15754
3	9624	11978	20980	11435
4	8437	10010	20485	12145
5	8448	10198	12975	12788
6	10531	11740	12297	13209
7	8438	11678	11997	10441
8	7004	8972	9583	10095
9	7204	8817	9338	9091
10	10184	11501	7653	11142
11	15419	10031	7613	14944
12	20840	11008	9969	21138
13	13937	11179	12904	16646
14	8267	12579	11846	9781
15	8825	12836	10845	9654
16	9584	11866	11462	9284
17	9260	10717	12832	9404
18	8251	8317	12636	9217
19	8484	8110	10410	8463
20	7789	7720	7788	7740
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6751

Borehole Count Rates

Depth	BH: Q33	BH: W42	BH: M31	BH: W48
0	8807	14059	10030	13432
1	12082	17070	16163	16923
2	17445	13240	17231	12060
3	11626	11417	13489	11360
4	11778	9553	14664	12236
5	16191	10379	12339	12981
6	12348	10434	10767	10633
7	10583	9972	10232	8891
8	13386	9431	9284	8261
9	10468	8760	11968	9469
10	12927	18762	12070	16455
11	10050	22090	12300	16877
12	9510	19031	11774	11164
13	9414	16927	13959	9063
14	9061	13414	11802	10865
15	9763	12479	10305	11085
16	9830	11913	11325	11350
17	8562	12092	10284	10485
18	8455	8765	8491	11043
19	7765	8665	8082	9072
20	7864	8016	7168	7626
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6751

Borehole Count Rates

Depth	BH: L39	BH: O36	BH: Z45	BH: AC43
0	9244	8731	12555	12404
1	12246	12785	15849	20259
2	15426	15315	15110	9152
3	17986	14684	14157	8767
4	18218	13729	10366	8756
5	16841	14655	9177	10291
6	14974	12170	10487	10658
7	12414	10833	10311	9863
8	10191	11202	9887	8116
9	12465	17082	8765	9219
10	19234	18412	7869	13008
11	14782	14097	11067	13535
12	12075	13508	16001	14151
13	11915	12612	12352	10658
14	12848	12075	8575	8093
15	12034	11630	10023	10952
16	11408	11058	10610	14140
17	10599	9658	11217	12423
18	8652	8953	10920	10255
19	8882	8052	10957	8909
20	7872	7638	8245	8046
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6751

Borehole Count Rates

Depth	BH: AB49	BH: Q39	BH: AC52	BH: P45
0	10226	8651	9983	10771
1	15144	11463	13612	14955
2	22282	14304	22075	14074
3	17654	16528	18326	9942
4	11785	16241	11305	10727
5	10312	14048	10677	10827
6	11696	14244	13177	11249
7	14262	14611	10413	11833
8	10985	14417	8167	12887
9	8586	13808	8190	14093
10	7315	17145	7635	16490
11	7740	14633	8402	13061
12	9960	14061	11369	10981
13	16522	10311	18375	11812
14	13201	9451	14033	9972
15	8376	10030	8133	9831
16	7745	9824	8285	10072
17	8072	9720	9391	10078
18	10646	10121	14253	9281
19	13292	8386	12651	8412
20	10511	6720	10334	8332
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6751

Borehole Count Rates

Depth	BH: AB58	BH: W52	BH: T43	BH: Z55
0	10817	11766	8985	10830
1	17803	14791	14321	15386
2	20225	16386	12572	23377
3	14832	13363	10823	19403
4	9784	10439	12806	11594
5	9406	12810	13040	10008
6	7294	13647	11380	12926
7	7584	9511	8563	8872
8	7639	9389	9982	8162
9	9073	10088	14828	8012
10	8915	10768	14085	7557
11	8636	12184	13211	7546
12	10533	11048	14675	8940
13	10470	9658	11964	14181
14	10229	8892	13400	14580
15	8708	8238	11087	8853
16	7937	10246	10511	8655
17	8658	11504	9700	10129
18	8203	10007	8912	8931
19	9162	8797	8609	8976
20	8903	8376	8409	9154
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-19-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6924

Borehole Count Rates

Depth	BH: T48	BH: L49	BH: Q52	BH: L52
0	8647	13091	11369	13470
1	12626	14411	18035	13617
2	15658	11549	16907	11623
3	14350	16104	10570	16033
4	7897	19780	11050	23102
5	7570	18317	12536	20083
6	9716	15748	12462	16073
7	9944	16698	10791	15316
8	8938	15781	11643	11622
9	9111	19326	11087	10012
10	12158	21138	13911	10422
11	14783	19445	13520	13007
12	12484	15068	11582	13488
13	12861	11559	13253	15242
14	11200	11603	11131	11112
15	12827	10558	9778	10298
16	15478	10383	10372	9545
17	16762	11236	10739	8798
18	14596	9369	9152	8034
19	10914	9140	8644	9876
20	8530	8053	8025	9672
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-19-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6924

Borehole Count Rates

Depth	BH: P55	BH: L59	BH: Q58	BH: L62
0	119778	10534	9119	13231
1	18767	15533	12472	18195
2	14364	12073	15400	13838
3	10943	10401	13484	10944
4	12479	13914	9378	14602
5	12691	14807	12777	15103
6	12839	12768	11570	11978
7	13528	12438	12167	13974
8	14474	10940	11762	12215
9	12428	11078	13626	10062
10	17211	9290	13513	11375
11	18987	10401	11500	9609
12	15587	14203	16798	10919
13	15891	16234	15605	13333
14	14622	12586	10115	14989
15	14077	12366	9829	12882
16	13041	14403	14152	8964
17	12195	15073	15068	10404
18	10399	12342	11853	10425
19	8937	10181	9826	9113
20	-	10134	9065	8178
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-19-09 & 08-20-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6924 / 7949

Borehole Count Rates

Depth	BH: Q62	BH: L68	BH: P65	BH: ~~X69~~ X59
0	10596	10304	9307	12362
1	14389	14668	14803	16406
2	16949	20569	20342	22334
3	9754	18302	11507	17768
4	9526	10727	9788	12042
5	9280	13270	10567	10043
6	9524	12578	11872	9533
7	12050	12965	12970	8594
8	14781	17590	13443	9846
9	13151	17901	10946	12533
10	10282	12459	8790	13704
11	14741	17901	13584	10379
12	15696	18939	16337	7956
13	9967	14689	10610	11893
14	9574	15963	11107	13548
15	8209	16620	9078	9935
16	8453	14305	8265	8226
17	9990	14160	8898	8356
18	9661	12022	9956	9862
19	8919	10827	9639	11017
20	8982	10985	7820	9691
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-20-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7949

Borehole Count Rates

Depth	BH: Q68	BH: R72	BH: L72	BH: V62
0	12187	11236	11638	11829
1	17745	17972	19123	15358
2	19717	22598	20970	17084
3	10722	13316	10931	11551
4	10953	12435	11972	10794
5	12334	15710	11311	9572
6	12226	12384	11410	8769
7	10537	10431	13957	9194
8	11537	12798	16088	11744
9	9952	10559	12270	12763
10	8584	6397	10654	10944
11	8205	7976	18984	7671
12	11275	11992	21870	10096
13	9517	12229	18005	15666
14	9278	10275	8672	10318
15	11248	13241	8622	8406
16	8613	13609	11788	8498
17	8085	12108	10945	8461
18	9133	13289	9070	8558
19	8042	15315	8928	9263
20	11692	18337	12490	8379
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-20-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7949

Borehole Count Rates

Depth	BH: Z65	BH: AC62	BH: AB68	BH: AC73
0	11694	12792	10376	10724
1	14589	14530	12764	13228
2	22698	22675	17602	17706
3	20706	22157	22031	11700
4	12653	13848	12732	11263
5	10047	9708	9388	10759
6	9050	9903	8161	9602
7	9288	8248	7689	10527
8	11344	8018	8466	11387
9	13541	9521	9857	15063
10	11741	9270	10130	13030
11	9970	8287	8545	11831
12	11550	12194	12433	18255
13	13714	14630	17746	22819
14	8130	8287	12508	17902
15	7446	6908	9603	10777
16	7869	3553	9273	8653
17	10461	6293	8067	8699
18	10690	7724	7888	9254
19	10086	8830	8739	10790
20	10407	8730	10213	11936
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-20-09 & 08-21-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7949 / 9223

Borehole Count Rates

Depth	BH: Z74	BH: W72	BH: O76	BH: L78
0	8830	12361	9464	10089
1	13453	15623	13521	12235
2	21005	13048	19191	13961
3	21059	12851	10443	9324
4	14453	13615	10441	10594
5	11812	9765	9489	11727
6	9689	10064	10075	14716
7	11451	10454	12752	14203
8	13992	11882	10690	11678
9	16244	11279	9861	11447
10	12971	7828	9157	12498
11	11011	7667	12039	9841
12	15933	10828	21157	15047
13	20019	8932	25095	16865
14	9048	8268	17366	16142
15	7786	8235	15600	15641
16	7448	8245	16461	12542
17	10545	12388	11700	11147
18	17406	11242	12679	14136
19	14414	12431	16846	17912
20	18946	14977	17585	-
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-21-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 9223

Borehole Count Rates

Depth	BH: Q78	BH: V79	BH: V69	BH: AF12
0	9748	8651	11035	9554
1	16702	11125	16344	16060
2	14843	7591	15273	15218
3	9846	10077	9645	11071
4	10742	10258	9154	10552
5	9500	9923	8415	10245
6	10539	10696	9551	10254
7	13238	13250	10911	11871
8	14764	11017	11521	10638
9	11959	8599	12459	8359
10	7472	8593	11529	7715
11	9549	11497	7699	7992
12	15564	15075	6831	8436
13	18621	9745	8132	12542
14	15365	8491	7192	11519
15	16723	12438	7838	12211
16	11136	11564	8185	11389
17	9441	12969	7837	9074
18	12783	15021	9517	8380
19	16923	14905	13620	6787
20	16050	12265	-	5664
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-21-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 9223

Borehole Count Rates

Depth	BH: AJ15	BH: AM12	BH: AO18	BH: AM22
0	8873	8378	11341	10490
1	14934	12872	11487	17608
2	22603	16323	15632	15142
3	17985	12408	12137	10899
4	10039	10386	8762	9511
5	8532	9042	7939	7894
6	9601	10127	7848	7481
7	9839	11925	8386	8605
8	11558	10560	8553	9945
9	9428	8771	9504	10165
10	7807	5930	12745	13780
11	10791	7254	15084	12037
12	11166	8721	17639	13529
13	11087	9999	10886	16368
14	9051	9100	10440	14722
15	9788	9581	10235	12366
16	8896	9019	9760	10881
17	7705	9876	7682	8977
18	8080	8365	7807	8359
19	7255	6988	7072	9110
20	6368	6441	6193	6960
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-21-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 9923

Borehole Count Rates

Depth	BH: AR12	BH: AF18	BH: AG22	BH: AJ25
0	9924	9495	9919	10955
1	12303	13285	17227	17864
2	13771	10243	18689	12555
3	11117	8905	11268	9261
4	10308	8259	8364	8041
5	10126	7931	7774	9171
6	9897	7654	8746	8735
7	10771	7748	10277	7388
8	9424	8413	12583	8933
9	8869	7523	8292	14114
10	11699	7697	8158	14031
11	15951	10452	11419	14686
12	18226	11403	14089	21073
13	11002	10301	14861	21289
14	10247	9545	13973	13605
15	8577	8882	12227	12337
16	7215	7665	10416	10132
17	7404	7968	9206	8656
18	6768	7413	8537	9618
19	6108	6251	7711	8195
20	6014	5530	6423	6812
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose & Sangho Nam

Location: 630 N. McClurg Court Date: 08-21-09 & 08-2409

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 9923 /6630

Borehole Count Rates

Depth	BH: AR18	BH: AT15	BH: AX13	BH: AD80
0	10519	10320	9768	9945
1	17531	17838	13046	12341
2	20014	19775	8074	7789
3	13150	9164	7814	10118
4	9827	7356	12210	10058
5	8740	12735	12106	9484
6	9287	12766	9520	11057
7	9275	10418	9627	14799
8	8060	8429	9495	17675
9	7598	7709	8187	15595
10	8779	8757	8159	10766
11	11721	10384	10588	12213
12	13999	11916	13013	18250
13	11810	12728	17077	16725
14	13592	15047	13379	12027
15	12676	12607	15178	8120
16	8412	9810	10611	9608
17	8462	8661	9184	17163
18	7937	7121	7385	21267
19	6569	6418	6398	20891
20	6009	6079	6040	18479
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-24-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6630

Borehole Count Rates

Depth	BH: AM28	BH: AF29	BH: AJ35	BH: AV22
0	9360	9130	9459	8926
1	14038	12505	13801	14631
2	10022	8268	20376	21378
3	10214	10637	12262	18831
4	9575	13980	8477	11344
5	10513	13774	7778	7602
6	11434	9254	7968	9005
7	8916	8354	9940	10080
8	8779	8650	9228	7995
9	8569	9658	8458	9068
10	9479	14467	7114	13415
11	14635	11383	7014	19240
12	14282	10578	7362	11107
13	10572	10915	10099	9340
14	8968	12987	10390	8994
15	10137	12731	8131	9437
16	15793	12085	7434	9293
17	14508	10538	7985	8665
18	9012	9336	7923	8111
19	8351	9015	8122	8075
20	7635	8336	8614	6822
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-24-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6630

Borehole Count Rates

Depth	BH: AM32	BH: AV29	BH: AU25	BH: AN38
0	8563	10533	8852	8444
1	12834	16340	11994	13340
2	19314	17214	17214	20546
3	19603	9131	19274	19487
4	11842	6547	9237	11048
5	12076	8145	6558	9148
6	13840	8549	7737	8458
7	12156	8083	9078	8487
8	10308	8682	9447	11379
9	8204	7630	9760	8580
10	6873	8024	8837	7034
11	6553	10982	7886	6067
12	6961	10072	9849	6781
13	11015	9401	10333	10809
14	10773	8249	9786	9372
15	9182	7989	9676	7354
16	7845	8654	10287	7928
17	7882	8264	8102	8189
18	7856	10016	7922	8082
19	8245	8012	8333	7655
20	8473	7772	-	8435
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-24-29

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6630

Borehole Count Rates

Depth	BH: AR22	BH: AF39	BH: AG32	BH: AR28
0	12111	9098	11714	10638
1	20415	12984	18721	16429
2	18705	21847	19192	20404
3	11484	17077	15111	18082
4	10376	9196	10781	12064
5	9327	8494	14817	10074
6	9474	8640	17251	12603
7	9728	9677	13679	13290
8	9802	8048	10139	12097
9	11809	7676	9328	11003
10	11251	6680	11963	8120
11	11400	6579	18751	7308
12	11080	8012	13114	7583
13	11418	12963	11187	7192
14	11679	13982	12687	7741
15	14870	9222	20745	7596
16	12221	7502	18114	8006
17	8586	7280	11254	7981
18	8043	8385	8754	7847
19	6372	8467	8081	8007
20	6464	7271	7730	6791
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-24-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6630

Borehole Count Rates

Depth	BH: AR32	BH: AG42	BH: AM42	BH: AT35
0	10780	9562	10732	11902
1	14236	14822	15174	20117
2	19170	20949	24407	26070
3	18765	17336	20170	13471
4	10687	10900	10520	10074
5	9945	8785	8959	10988
6	11666	8305	10235	13408
7	10007	8125	13599	11147
8	10408	8684	9822	10063
9	8257	8908	8645	6756
10	7982	6812	7877	7695
11	7857	6211	7791	10983
12	10812	6549	11646	11325
13	7960	9469	10070	10505
14	7312	12900	8217	8712
15	7424	8270	7900	8267
16	8072	6784	7861	8158
17	8146	7646	7891	7322
18	7984	8210	9432	7682
19	8328	9069	9719	8119
20	7673	8594	8876	7776
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-25-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6462

Borehole Count Rates

Depth	BH: AJ44	BH: AR38	BH: AF48	BH: AV39
0	9791	11891	9559	8533
1	13740	20868	14438	12848
2	17904	16650	23301	16469
3	20184	11134	18097	13193
4	15600	10742	11222	7680
5	14158	12960	10318	7887
6	9848	11415	10049	10373
7	9262	10633	9165	11429
8	8596	7563	8808	9299
9	9392	6193	7797	8336
10	7557	8383	6553	6569
11	6571	10576	7797	6842
12	7686	9678	9945	9250
13	9262	8720	11861	12990
14	8589	7553	9934	11463
15	8822	8069	7071	11347
16	9067	8161	5807	10948
17	10170	7712	8167	9812
18	12318	7630	14802	8214
19	14404	8082	19138	7911
20	11734	7806	15596	8612
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-25-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6462

Borehole Count Rates

Depth	BH: AO44	BH: AV31	BH: AO49	BH: AR42
0	10460	12171	11501	9887
1	16709	22536	15295	16324
2	***29806***	14243	24105	24415
3	24112	7909	22086	16201
4	12080	9940	11115	10559
5	9911	12078	8111	9693
6	8671	12968	8255	12722
7	8354	9168	9245	17071
8	8769	8465	9751	11992
9	6900	10263	8105	9410
10	6321	14521	6961	6866
11	7373	11539	7564	6326
12	10349	9570	7847	9407
13	11103	8765	11842	13754
14	10968	8803	12760	13668
15	9704	9451	12116	13025
16	8981	13914	11330	11014
17	7894	16955	9908	8327
18	7989	10005	10314	8582
19	8084	6848	10201	7987
20	8041	6457	9407	7435
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-25-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6462

Borehole Count Rates

Depth	BH: AM52	BH: AF52	BH: AT45	BH: AV41
0	10707	10366	14789	14909
1	16511	16417	16548	21728
2	24425	19647	20456	20425
3	20713	14871	17104	7354
4	11708	10437	11233	6295
5	8156	8880	9915	7808
6	8103	8863	9358	7895
7	9182	8835	8210	8957
8	7862	8107	8364	7118
9	7596	8213	7988	5273
10	8200	8002	6555	6312
11	8101	9492	6111	6407
12	10787	11440	8396	10192
13	14873	10072	13919	12604
14	13047	8785	13510	10380
15	10792	9609	13698	11099
16	9570	10204	14411	11352
17	11252	16976	14711	10685
18	10612	22384	13531	8311
19	9208	22607	12100	8581
20	9414	19205	12955	7627
Samples collected				

Client: Gaiatech Performed By: Sangho Nam & Krista Ambrose

Location: 630 N. McClurg Court Date: 08-25-09 & 08-26-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6462 / 8231

Borehole Count Rates

Depth	BH: AJ56	BH: AF56	BH: AV48	BH: AO60
0	10081	10589	12786	10506
1	15914	15170	20471	17610
2	22644	22978	20861	23333
3	15172	19475	11110	16384
4	10778	12095	8770	11063
5	9195	9065	10647	8564
6	8651	9737	9880	8203
7	7977	12327	8600	9127
8	7815	10271	7973	8166
9	10188	9100	6882	8447
10	8327	8172	5659	7583
11	8461	8389	5297	6275
12	11097	10438	6214	9108
13	13730	10630	8877	14439
14	11970	9085	12302	11790
15	8661	8211	15299	9768
16	8702	8123	12986	12204
17	9542	10993	12935	12468
18	16535	17051	13730	10501
19	16833	19096	10763	10603
20	15289	15825	11482	10044
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-26-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 8231

Borehole Count Rates

Depth	BH: AR52	BH: AS48	BH: AW51	BH: AT56
0	12500	13250	11583	9808
1	18422	14783	20396	15287
2	28468	17862	25882	25207
3	22391	19133	13628	25494
4	13219	13054	11865	17380
5	9813	10144	8636	10151
6	8527	10228	9119	8873
7	8654	9607	8392	9411
8	9417	8305	9485	7983
9	8623	7474	7585	6957
10	7566	6870	7051	7078
11	6903	6271	6122	7025
12	9383	7439	7138	8207
13	15182	13297	13089	12416
14	12816	14884	13935	13417
15	12985	13631	11499	12329
16	13270	12715	10461	11619
17	13737	12829	12069	12854
18	11800	13120	13014	13475
19	10925	12054	12574	12951
20	10387	12982	11377	12689
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-26-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 8231

Borehole Count Rates

Depth	BH: AG62	BH: AJ65	BH: AM62	BH: AP58
0	9313	9314	14676	12829
1	13337	13430	22053	16861
2	18814	19931	17641	22546
3	24104	23548	18361	18518
4	16657	14841	14232	10142
5	10935	11642	11753	9111
6	9047	8162	10908	8706
7	7887	10210	12179	9851
8	7903	13219	12804	7890
9	8778	9311	9711	9511
10	8574	8207	7574	7693
11	7090	7928	7098	6543
12	8487	7760	7778	8923
13	14362	11214	11687	12244
14	13175	15533	11890	10055
15	11957	16178	14200	12573
16	10299	14115	12582	11433
17	9955	14403	13049	11270
18	8885	13073	12301	10306
19	8611	11268	10636	9262
20	9978	11097	-	8956
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-26-09 & 08-27-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 8231 / 7172

Borehole Count Rates

Depth	BH: AU58	BH: AG68	BH: AM68	BH: AR62
0	11123	12711	9465	9645
1	16788	12366	13047	14760
2	21529	16797	17465	15959
3	21171	22015	17146	22992
4	13624	14692	13067	19931
5	8032	11009	11123	11373
6	8129	9374	10403	8735
7	10051	8451	8639	8354
8	9281	8220	8268	9772
9	7896	7899	9287	11222
10	6549	9337	12098	12040
11	7738	8123	10269	9221
12	11851	7727	8863	9968
13	15272	13494	16878	16032
14	12389	14596	11785	13932
15	11812	12718	10880	12343
16	12587	14175	10412	10709
17	12611	13365	11252	11223
18	12390	11124	11625	11025
19	11619	9026	11290	11930
20	9892	-	11434	12234
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-27-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7172

Borehole Count Rates

Depth	BH: AW61	BH: AT65	BH: AQ68	BH: AM72
0	12505	9405	9845	8506
1	17345	12101	13099	11518
2	11756	17052	17473	14368
3	11448	26721	14084	15036
4	11748	19495	10351	12114
5	10030	14766	9513	12269
6	8169	11542	10514	10064
7	8288	8925	9514	8492
8	9162	9856	10338	9466
9	9262	10939	11788	10086
10	7539	11294	12650	11284
11	7453	10190	9325	11407
12	10495	8123	8309	7846
13	12534	11529	13751	11472
14	10027	11183	10582	11952
15	8702	9633	9109	8458
16	9513	10771	9191	10646
17	10688	13733	8809	12116
18	10901	13323	9424	10875
19	10558	11818	10231	11444
20	11334	11808	9652	10489
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-27-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7172

Borehole Count Rates

Depth	BH: AM77	BH: AY67	BH: AX72	BH: AX79
0	8272	8961	8026	6863
1	9315	8576	9742	7789
2	11135	7235	7560	7335
3	10475	7435	5844	6631
4	9770	10580	6265	10604
5	9271	15834	6088	13414
6	8614	12765	7781	11122
7	10159	9747	9525	11153
8	12931	9802	10186	12841
9	12215	10777	10054	11709
10	10945	7673	10020	9955
11	7899	6418	9076	10075
12	9575	8393	12561	10500
13	12749	11328	21556	9709
14	10474	10918	17223	8910
15	9019	8771	12958	10105
16	9979	10386	12982	11673
17	10082	11904	14815	12538
18	13159	10132	15327	11748
19	17006	11984	14057	16462
20	11575	15898	17808	18668
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-27-09 & 08-28-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7172 / 7579

Borehole Count Rates

Depth	BH: AT75	BH: AQ72	BH: AJ74	BH: AG72
0	9486	8656	8580	8854
1	13638	12841	11681	12312
2	20542	18300	15054	14322
3	13880	15326	12992	17331
4	7885	11683	11170	14591
5	7305	10454	11054	17726
6	8024	9019	9078	13181
7	8981	9607	7984	11232
8	9596	10260	9211	14813
9	9962	8541	10136	9964
10	10959	8643	11333	9688
11	8814	8163	10116	11864
12	11662	7934	8651	10660
13	11718	12002	13105	12097
14	10274	12789	11229	15426
15	11173	11176	10787	12902
16	9448	9707	10780	11719
17	8947	9283	12349	11879
18	9620	9440	11871	13265
19	8045	9253	11365	10239
20	8115	8209	10992	10159
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-28-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7579

Borehole Count Rates

Depth	BH: AQ77	BH: AX88	BH: AD82	BH: AQ88
0	8848	6634	9239	8333
1	10141	8904	12665	11421
2	12853	9406	15426	9973
3	11905	10113	13307	9664
4	15375	10446	14091	10717
5	13190	11981	10290	13396
6	11543	13105	12561	10868
7	10237	12763	18533	11770
8	8740	12749	23602	13341
9	10594	12838	15031	14535
10	12327	13263	10274	10919
11	9784	12285	10748	9329
12	7954	11689	12821	11690
13	12513	9871	11525	11750
14	17886	7865	10318	11075
15	10680	9947	10546	10073
16	8352	10509	12055	10359
17	9349	9272	16356	12090
18	9930	9474	20286	12939
19	10807	8560	19992	11104
20	-	8060	-	9733
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-28-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7579

Borehole Count Rates

Depth	BH: V82	BH: AT86	BH: S82	BH: AX82
0	7544	8053	8329	Basement
1	8300	10530	13311	-
2	8852	14991	13839	-
3	12196	12738	8105	-
4	12907	9708	7130	-
5	11968	9424	9015	-
6	11687	10191	10904	-
7	15034	10673	14798	-
8	13223	12167	16667	-
9	12601	10797	16621	-
10	8647	11843	12880	12683
11	8450	9691	11350	14035
12	13554	10346	10754	12971
13	12411	10896	13703	10783
14	9132	10482	16532	7926
15	7435	12227	10764	1209
16	8893	10922	15067	11871
17	10617	10727	16345	10746
18	13760	10161	14980	10322
19	13234	8814	14188	9080
20	12292	-	15856	9848
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 08-28-09 & 08-31-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7579 / 6361

Borehole Count Rates

Depth	BH: AQ82	BH: P85	BH: AQ82	BH: M88
0	8186	7563	8242	9570
1	13330	17266	8820	14581
2	13210	11589	8737	15939
3	8362	9714	9242	9701
4	7290	11213	9218	10970
5	9142	12974	9373	11975
6	10769	15228	10468	14690
7	14698	11630	13585	14083
8	16688	12566	14068	14716
9	16600	9937	13753	12297
10	12725	8757	12915	12371
11	11380	8847	9862	8899
12	10867	10689	10505	9733
13	13865	10299	12275	16932
14	17285	11616	9249	13350
15	10694	11144	6955	11627
16	15633	8349	7659	12681
17	16355	9061	9038	11057
18	15055	10310	10251	12712
19	14384	14340	9445	14101
20	15713	17278	8636	19133
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-31-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6361

Borehole Count Rates

Depth	BH: AN88	BH: AB88	BH: W88	BH: Z85
0	7595	9986	9862	8122
1	9521	16978	11267	12343
2	11112	14997	12406	13674
3	11452	10685	11748	10660
4	8538	10372	9116	11626
5	8011	11603	8711	10518
6	11627	12887	10743	12111
7	13692	14545	15472	13911
8	13162	11688	16029	13774
9	13066	13322	12118	15226
10	12052	12243	10374	12441
11	8762	13755	10464	9927
12	10427	15920	11982	14170
13	12073	13541	11020	12570
14	12625	10047	12980	11072
15	12947	11167	10896	10449
16	12448	13997	11779	10413
17	10368	15254	13414	9309
18	10211	13960	13873	9213
19	12038	18156	16227	9888
20	14173	19460	20479	10468
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-31-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6361

Borehole Count Rates

Depth	BH: AM82	BH: AJ85	BH: BB89	BH: BI90
0	8001	7909	Basement	Basement
1	9549	10610	-	-
2	14817	14303	-	-
3	12038	12072	-	-
4	13345	10682	-	-
5	11217	10608	-	-
6	10975	11189	-	-
7	13474	13307	-	-
8	12857	16282	-	-
9	11078	13441	-	-
10	11759	11219	12176	11001
11	11062	9750	13372	10836
12	10336	8234	15571	12986
13	11861	9939	15922	11867
14	10759	9877	17208	10917
15	10490	10739	21431	12925
16	10843	10176	20410	14324
17	11984	10511	15823	11354
18	11806	12039	14188	11613
19	10647	10981	13456	15987
20	10841	10732	18625	17731
Samples collected				

Client: Gaiatech Performed By: Sangho Nam

Location: 630 N. McClurg Court Date: 08-31-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6361

Borehole Count Rates

Depth	BH: AG88	BH: ~~CD88~~ 3	BH: AG82	BH: AS85
0	10121	8198	8222	Basement
1	11661	11069	10716	-
2	11163	9724	12670	-
3	11043	10171	12089	-
4	11212	11943	11347	-
5	10807	12862	12340	-
6	13653	11237	10758	-
7	15578	15507	13342	-
8	15238	17829	17069	-
9	14163	14271	16437	-
10	10101	10311	16798	11999
11	9672	8731	13666	9949
12	13959	11847	8581	9664
13	10682	16270	11309	11673
14	10441	12532	9353	11404
15	12250	8502	8111	14129
16	13697	7011	9886	14840
17	12150	8412	11883	15228
18	12155	8951	13687	12644
19	13740	10061	16587	16132
20	17226	11742	14111	18333
Samples collected				

Client: Gaiatech

Performed By: Sangho Nam & Krista Ambrose

Location: 630 N. McClurg Court

Date: 08-31-09 & 09-01-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6361 / 6385

Borehole Count Rates

Depth	BH: BG82	BH: BB82	BH: AG77	BH: BD75
0	Basement	Basement	8234	8846
1	-	-	11940	12656
2	-	-	15264	11918
3	-	-	13027	18730
4	-	-	10377	12049
5	-	-	9294	10679
6	-	-	9156	10900
7	-	-	12164	11210
8	-	-	12582	11148
9	-	-	12736	12347
10	12167	11667	10445	10381
11	9214	11937	8002	7934
12	8004	12769	8257	8482
13	9741	12052	10280	11822
14	12216	8591	10672	10218
15	13583	7011	10395	9455
16	18835	7325	11027	9720
17	22149	9241	10979	11431
18	21236	11018	16012	9875
19	12276	11618	19664	11213
20	14694	16671	20616	11784
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-01-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6385

Borehole Count Rates

Depth	BH: C32	BH: E14	BH: C12	BH: H12
0	9444	8942	8951	15627
1	14206	14203	13803	23601
2	19698	17719	19987	23995
3	13234	13183	23128	16119
4	15151	14122	17180	14962
5	12220	13203	14490	16754
6	14027	10420	12659	11328
7	17933	9934	11736	8546
8	18756	10430	12274	7177
9	18567	9804	11174	6981
10	17573	8074	10642	8248
11	13270	9753	16168	9837
12	13543	9782	15864	8184
13	13039	7504	11599	7967
14	10689	7089	9299	9355
15	9545	8660	8610	8061
16	10371	7876	7223	7635
17	11815	7801	6760	6314
18	10396	7225	6737	6222
19	7725	7019	6285	5797
20	7469	5983	-	-
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-01-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6385

Borehole Count Rates

Depth	BH: H19	BH: B19	BH: B22	BH: D37
0	8755	9502	9189	10648
1	12358	17820	16368	12736
2	16029	24589	20220	11273
3	17512	16091	14386	11340
4	12816	11967	15486	11871
5	14526	12615	13828	13100
6	12993	14806	14885	15364
7	9904	11177	11301	22168
8	9047	11867	11737	15312
9	7384	17956	16773	11039
10	7438	17032	17550	13826
11	8956	13830	14901	13974
12	12138	10921	13729	12497
13	11628	7404	10463	12633
14	10777	6634	8923	10673
15	10263	8334	8437	8607
16	9735	7978	9587	7713
17	7735	7649	8135	8373
18	7621	7546	7280	8231
19	6781	8217	7115	8150
20	6745	7492	7623	8651
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-01-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6385

Borehole Count Rates

Depth	BH: E34	BH: H33	BH: ~~H38~~ H28	BH: C28
0	8825	8517	8498	8728
1	18392	15196	15600	10925
2	11725	17774	12874	20480
3	13306	10998	9659	17704
4	12368	10377	9807	18259
5	13428	10267	11762	15503
6	12884	9844	12415	15184
7	11397	11189	12637	11797
8	11295	11589	12254	11534
9	16552	12523	17272	10307
10	16903	17874	22387	13533
11	11671	12639	13424	15315
12	12812	13782	10490	12383
13	13544	15363	10501	11120
14	11829	13601	11282	11290
15	10527	17653	9444	11695
16	9630	14507	8933	10512
17	8257	11085	9946	9804
18	8460	8546	9003	8817
19	8185	8014	8633	8158
20	7493	9042	7821	7752
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose & Roger Marsh

Location: 630 N. McClurg Court Date: 09-01-09 & 09-02-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6385 / 7334

Borehole Count Rates

Depth	BH: E26	BH: H46	BH: C68	BH: C54
0	8409	13309	10214	9522
1	14612	22482	15991	9966
2	23252	14591	14386	10718
3	18268	13051	10467	15043
4	14272	15696	13644	14716
5	12242	16651	12673	18058
6	11206	16412	11105	15720
7	9309	14822	13271	17981
8	9478	16806	11879	16596
9	10390	11922	10114	12405
10	14626	10570	10234	8526
11	14231	9561	10419	10060
12	11677	10124	9635	10217
13	10815	10450	8603	9240
14	11579	10767	8863	10678
15	11519	11100	10991	10062
16	8817	10316	11733	9994
17	9109	9629	11545	11405
18	7816	9261	12351	10651
19	4523	9031	10731	14316
20	4426	8395	9756	12249
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-02-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7334

Borehole Count Rates

Depth	BH: H67	BH: H57	BH: F45	BH: ~~H33~~ H43
0	14141	15185	8917	9225
1	21628	21995	12624	16709
2	15961	11535	22555	12386
3	15202	10746	15200	13457
4	13896	12414	14417	11817
5	14742	11957	15835	12028
6	13515	16925	12102	16293
7	12241	14972	14343	12532
8	11471	12710	14629	11041
9	10341	12406	14927	10653
10	8928	12046	11084	11338
11	10306	12588	9383	10481
12	16089	13686	9765	10587
13	19620	14547	10967	11041
14	15724	11596	13835	10163
15	12547	10074	11898	10173
16	12009	9322	10568	10653
17	11331	9197	10286	11311
18	9696	12093	9585	9282
19	8761	16631	9434	9028
20	8271	10754	9040	-
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-02-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7334

Borehole Count Rates

Depth	BH: I62	BH: G29	BH: C41	BH: E46
0	13432	9528	10696	15206
1	16486	16097	10341	23249
2	9730	19953	9258	11981
3	12670	24760	8793	13721
4	17341	14125	9410	15531
5	16453	12306	11301	12611
6	12419	13852	14125	14356
7	13177	11341	15752	15516
8	12885	9675	14280	12948
9	10121	14699	16403	10302
10	10850	17999	14732	9613
11	13371	12599	11538	10159
12	10935	13116	10856	11294
13	9620	12406	10210	10556
14	10453	10140	9421	9054
15	12198	11111	9947	8680
16	12778	9765	9998	8434
17	10879	8911	8813	7861
18	8841	8772	8750	8607
19	8924	8286	6858	8973
20	-	7826	6094	7837
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-02-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7334

Borehole Count Rates

Depth	BH: C58	BH: U44	BH: U37	BH: K41
0	11589	8917	9597	10078
1	20211	13856	16174	15828
2	15471	15919	14220	10113
3	18684	10316	7432	10990
4	15624	7853	8164	11924
5	13380	10779	12612	11656
6	15966	13125	11521	14725
7	13536	9136	9709	18784
8	14785	8742	9872	11822
9	12655	11220	10468	16218
10	10896	20417	9141	20376
11	11065	14752	12333	13716
12	11285	14239	11791	11568
13	12174	10943	10785	9466
14	10720	12048	10137	12056
15	9967	11590	9967	11105
16	10925	10378	9144	10283
17	10328	10402	9400	9536
18	14185	9521	8048	9077
19	15343	9612	11830	7933
20	12628	8625	-	7607
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-02-09 & 09-03-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7334 / 7356

Borehole Count Rates

Depth	BH: H23	BH: F85	BH: F75	BH: H78
0	7936	12737	12979	15069
1	12544	14676	22977	22916
2	16916	11061	15197	16686
3	16600	12221	17249	12792
4	11560	17770	22942	13831
5	10084	18978	22690	14304
6	9511	15878	12857	12242
7	8758	14586	14086	10056
8	8045	12584	12120	10474
9	9012	11629	9180	8494
10	14716	10910	12337	9897
11	15512	19733	13884	17073
12	12496	20413	11883	14035
13	11400	13887	12104	8741
14	11692	8102	13885	12040
15	9536	6626	14876	14124
16	9586	9763	14585	14039
17	8965	12568	13284	10832
18	8005	13103	10196	10316
19	7582	18064	9749	10557
20	6722	17827	-	13825
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-03-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7356

Borehole Count Rates

Depth	BH: C88	BH: H82	BH: D71	BH: G71
0	10523	11626	11098	9462
1	20550	20498	20626	16247
2	14692	13908	20959	25841
3	15310	10681	15499	15170
4	18447	10482	17934	17422
5	17141	11602	16921	19868
6	14641	12007	14138	16828
7	11356	14108	13857	19163
8	10338	15171	11788	16675
9	11676	12468	10496	9125
10	14632	11651	10492	7969
11	19919	19466	10964	9412
12	16845	20981	13786	11842
13	12120	10876	14301	14090
14	9574	7160	12683	16646
15	14813	9075	11283	14520
16	14085	11778	10651	14093
17	11264	11188	12855	10774
18	12511	10213	11915	9216
19	14856	10433	10163	8060
20	17776	12333	9652	9041
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-03-09 & 09-04-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7356 / 7484

Borehole Count Rates

Depth	BH: C78	BH: F55	BH: C62	BH: F63
0	14258	14255	22702	9282
1	23184	20139	14208	19751
2	16822	11563	15415	21637
3	19253	14213	17514	14946
4	17479	15765	19529	17272
5	15153	15629	16180	14853
6	13792	16389	17208	13449
7	11940	18090	15010	12744
8	11868	15018	10694	11277
9	12954	10467	10456	13357
10	16899	10750	14886	9821
11	19728	11146	16262	9723
12	18760	10087	13242	10380
13	18637	10893	9659	9454
14	15554	11829	9283	10773
15	14627	11545	10387	13169
16	11811	12513	9579	12003
17	9444	14035	8801	10959
18	9317	16468	10327	9175
19	7393	16839	11844	9722
20	8262	11108	6777	14863
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-04-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7484

Borehole Count Rates

Depth	BH: C82	BH: C91	BH: H88	BH: I91
0	14993	8759	11989	9782
1	13471	13307	15461	15071
2	16023	12421	11023	13513
3	18804	15378	11113	8656
4	13127	16181	13925	9787
5	12684	19874	14949	10016
6	16678	15999	14873	8386
7	13751	15244	14469	12182
8	12713	12192	11358	11715
9	14522	11372	10427	10091
10	18680	11492	11284	8809
11	14537	18098	18951	7846
12	14643	25765	18728	12551
13	15862	21790	18512	19697
14	14821	14749	14653	20520
15	13486	7207	10894	15744
16	14650	8120	9599	13532
17	10680	8635	9897	11440
18	9718	8373	11463	13336
19	9544	9586	13870	17421
20	10761	13803	16708	19321
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-04-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7484

Borehole Count Rates

Depth	BH: N91	BH: X92	BH: R91	BH: AB92
0	13194	8047	9185	8829
1	18811	9758	14979	11659
2	15267	9702	16637	11379
3	11475	9842	18640	11193
4	7953	9944	17891	10533
5	9004	9446	14043	9031
6	10788	11333	10390	10205
7	8207	14276	12000	14062
8	9392	13686	15648	15242
9	11106	15392	13608	12704
10	8960	16197	9855	11175
11	10694	13953	11245	10196
12	18627	16429	13111	9743
13	21667	11177	12650	13384
14	15831	9040	15012	11508
15	14085	7737	11341	10301
16	14389	8857	12056	11732
17	13043	11053	14460	12174
18	12634	14192	17273	9975
19	13662	15989	16193	9868
20	16250	19664	13731	11793
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-04-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7484

Borehole Count Rates

Depth	BH: AM91	BH: AG92	BH: AQ91	BH: AU92
0	8652	9036	7788	7118
1	10457	11984	9958	9719
2	10099	11134	10061	9843
3	10272	10920	9967	9935
4	10867	9604	8846	9976
5	12300	11909	8073	9531
6	12995	13472	9645	9313
7	12616	13894	11674	11955
8	11348	13928	17028	11885
9	9999	12653	17589	8655
10	11391	10767	16153	7910
11	8183	10622	9735	10138
12	10823	14767	9527	14474
13	12229	14998	11209	11247
14	11038	10983	7725	10575
15	13506	8483	8910	10309
16	11474	10822	10358	7952
17	14349	11581	10748	7203
18	16886	11240	11158	8358
19	14739	12500	12058	9876
20	13120	16865	11300	-
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-04-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7484

Borehole Count Rates

Depth	BH: BB91	BH: BG91	BH: BJ91	BH: BM91
0	7076	7355	10256	7358
1	9032	8343	10873	9190
2	10970	10956	10471	9951
3	11017	11280	10820	10097
4	10556	11027	10812	9863
5	10138	11019	11631	10115
6	11129	10922	11665	10195
7	12878	10521	10746	9541
8	12669	11551	10424	10048
9	10687	10899	10844	9467
10	12080	10917	13133	9720
11	12880	10299	16003	11488
12	13286	7401	17741	13809
13	11971	7386	16823	15122
14	9699	11804	16548	16505
15	11734	14751	15073	17129
16	13456	16781	19143	17029
17	15211	17730	17862	18163
18	15595	18226	17946	19577
19	13670	13486	17267	17529
20	11117	14786	-	15819
Samples collected				

Client: Gaiatech Performed By: Roger Marsh & Krista Ambrose

Location: 630 N. McClurg Court Date: 09-08-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 7065 / 6913

Borehole Count Rates

Depth	BH: BJ87	BH: BM87	BH: BL85	BH: BA62
0	9730	8470	10022	8315
1	11000	10351	10275	8524
2	11097	10683	10279	8233
3	10503	10758	10625	10034
4	10879	10376	11446	9981
5	11200	10078	11230	9760
6	10709	10701	10398	9067
7	10268	10529	10515	8434
8	10596	10972	10842	8919
9	12074	11132	11964	9704
10	11551	12149	14557	5852
11	11860	12126	15566	4965
12	13147	15504	11726	5918
13	10936	17469	9723	9129
14	10721	15678	15501	11261
15	10809	16053	16858	13426
16	14139	17183	17177	9401
17	18202	20604	17714	9559
18	18817	18075	18495	10684
19	18218	14308	18652	11270
20	17314	15045	18282	9305
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-08-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6913

Borehole Count Rates

Depth	BH: BJ82	BH: BM82	BH: BK79	BH: BM76
0	Basement	Basement	Basement	8880
1	-	-	-	6623
2	-	-	-	6609
3	-	-	-	8623
4	-	-	-	10506
5	-	-	-	12359
6	-	-	-	13081
7	-	-	-	12294
8	-	-	-	11522
9	-	-	-	12399
10	12676	10854	14136	12397
11	13260	12446	13208	12964
12	14036	12446	15320	12158
13	15313	10925	13952	12054
14	14331	10771	14372	12147
15	14059	11919	15633	12074
16	13646	14986	13021	14499
17	13462	15917	14911	14397
18	17653	14110	15362	14269
19	18436	14259	18007	14103
20	18087	16304	13729	11087
21		13047		
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-08-09 & 09-09-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6913 / 6123

Borehole Count Rates

Depth	BH: BA72	BH: BA68	BH: BD65	BH: BH52
0	9948	10560	8795	7804
1	11722	12650	11198	8772
2	7806	14822	9798	7592
3	10713	14318	9252	7333
4	7532	8663	10234	11874
5	7110	8498	12098	13244
6	8489	10699	11510	9789
7	9549	10478	13606	9080
8	9350	9957	10523	8623
9	10557	9036	10340	8480
10	12191	8219	9160	9517
11	12026	7130	7918	7812
12	8507	7487	6908	7127
13	12553	11082	9414	11219
14	11193	11237	12907	14069
15	9178	10831	9855	9793
16	8067	10840	10587	10465
17	8958	11122	10658	11914
18	9859	13696	10943	13559
19	14658	13546	9899	11497
20	15343	12517	11699	11155
21			9573	12376
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-08-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6913

Borehole Count Rates

Depth	BH: BH76	BH: BC75	BH: BM72	BH: BA79
0	9289	9458	8624	7553
1	10335	7248	9136	9511
2	6934	10137	8064	14121
3	7590	10209	9322	11434
4	9281	10203	11013	16537
5	10438	10154	10550	19014
6	10536	11112	11254	12469
7	10917	11963	12057	10790
8	11540	12913	12454	9671
9	10732	13539	10888	9832
10	10436	12277	11527	9756
11	12380	12234	13318	8877
12	13346	12869	14226	9645
13	13074	14130	13357	9115
14	14332	11986	10349	9322
15	13215	12094	10079	10071
16	13661	12676	10983	9818
17	14942	13302	11552	10833
18	13866	14198	10585	13220
19	13970	12500	11408	17378
20	17874	12368	10696	18179
21	14691	10715	10607	
22			14159	
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-09-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6123

Borehole Count Rates

Depth	BH: BA52	BH: BD55	BH: BA58	BH: BK72
0	9861	8906	8330	7944
1	11337	8436	9561	8911
2	8324	6147	11325	10458
3	10781	8858	7531	6911
4	14626	11763	8812	8722
5	10676	12860	9153	9031
6	8562	10042	10332	9093
7	7689	9011	12068	10027
8	7189	10945	11615	11406
9	6641	9539	7559	11675
10	5921	8116	6756	11479
11	6173	6916	7661	8754
12	9941	7471	9291	10888
13	14332	10932	9127	11503
14	9768	11939	12842	12447
15	9849	10885	14523	12607
16	9827	11972	14031	14012
17	9922	12725	10639	16503
18	10824	11658	11613	15529
19	11120	11113	10807	16429
20	11950	12741	12083	20289
21	10047	13924	13170	17873
22	6134			11662
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-09-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6123

Borehole Count Rates

Depth	BH: BH68	BH: BH62	BH: BH57	BH: BA62
0	8284	7591	9967	8587
1	11120	9660	11065	8124
2	11200	9204	9792	8343
3	7967	7119	11021	7957
4	8375	9035	10861	11424
5	9218	9635	10646	9899
6	8986	9712	11175	9586
7	8801	12665	10011	9041
8	9835	10982	8650	8254
9	9089	8420	8835	8655
10	8460	7680	7859	9688
11	7323	6430	6841	8657
12	9829	6197	8142	7715
13	16303	8988	9500	7892
14	17712	10488	6154	9202
15	13954	11426	9078	11282
16	13189	10597	10407	13677
17	14988	9712	9815	9512
18	15838	10077	9184	9904
19	10992	11397	10546	10761
20	12444	12770	12279	11078
21			12729	9287
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-09-09 & 09-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 6123 / 4882

Borehole Count Rates

Depth	BH: BL65	BH: BK62	BH: BM62	BH: BG72
0	8859	9014	5977	5174
1	10954	10686	4672	6023
2	7565	7447	3471	5367
3	8271	7457	4879	6641
4	9780	11830	6107	5838
5	10533	13375	5342	4452
6	10331	12056	4958	5023
7	12174	9502	4875	5446
8	14997	8293	4312	6953
9	11708	7625	1020	5495
10	9172	6763	4208	4059
11	12342	8228	10826	4867
12	18360	11795	11006	6581
13	18072	12655	11837	6050
14	14229	11351	15093	4879
15	12900	12031	17660	6303
16	13016	12244	17617	8611
17	12691	12447	14646	8442
18	13216	11033	16502	8432
19	11789	10234	15544	8427
20	11156	11773	14508	8031
21	8374	10489	10766	6248
22			7757	
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4882

Borehole Count Rates

Depth	BH: BK69	BH: BK62	BH: BK58	BH: BM58
0	5146	7519	5092	5422
1	5671	5710	5851	5540
2	4773	4355	4369	5569
3	4668	3642	2652	4037
4	5156	5868	4246	4530
5	5569	7106	6068	5812
6	4743	6355	7108	5978
7	5217	5129	5981	5195
8	7182	4286	5021	5449
9	8804	4363	4435	5330
10	4546	3615	3649	4203
11	4729	4288	3199	4267
12	5895	6264	4058	5080
13	6174	6405	7604	7883
14	5800	4829	4658	8526
15	5830	6992	5092	7791
16	6361	6694	5440	7973
17	8048	6633	6036	7661
18	7851	5940	5818	6707
19	8873	6102	5782	6228
20	7816	5981	6137	7366
21	6012		6970	7389
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4882

Borehole Count Rates

Depth	BH: BK58	BH: BL55	BH: BM52	BH: BK52
0	5339	5999	4512	6427
1	5929	5807	5773	5967
2	4578	4835	5644	4879
3	2639	3569	5928	3181
4	4318	4526	5775	4625
5	6132	6594	5902	7441
6	7029	5813	6335	6299
7	6030	5234	6388	5232
8	5309	5618	6536	4590
9	4508	4584	5959	4598
10	3691	3524	5286	3698
11	3243	2919	5020	3186
12	4121	4212	5904	3529
13	7392	6594	6306	5004
14	4663	4978	5657	3927
15	5087	6775	5566	4989
16	5374	6143	6222	6884
17	6062	6449	7597	6619
18	5946	6319	8275	6157
19	5650	6730	8283	6196
20	5935	7008	7588	7493
21	7083		4934	8257
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose

Location: 630 N. McClurg Court Date: 09-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4882

Borehole Count Rates

Depth	BH: BL49	BH: BK48	BH: BH48	BH: AZ48
0	6494	7103	6766	7561
1	6542	8043	8127	7880
2	6762	11486	10337	12059
3	5707	7026	6889	6200
4	5271	5721	6720	7803
5	5610	5737	5827	9120
6	5934	6985	8007	5674
7	6068	6876	9725	6200
8	5766	6647	7048	5980
9	5475	6669	4099	4309
10	4426	4798	3252	4021
11	3726	3882	3639	4341
12	4119	4290	5163	6384
13	5039	6081	5468	7477
14	4800	4887	5513	5882
15	6075	5407	6846	4493
16	6613	5606	7754	6717
17	6190	5984	7614	10148
18	6069	7999	7624	12604
19	6809	10511	10070	10139
20	6346	10559	12045	10656
21				11320
Samples collected				

Client: Gaiatech Performed By: Krista Ambrose & Roger Marsh

Location: 630 N. McClurg Court Date: 09-14-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4882

Borehole Count Rates

END

Depth	BH: BD45	BH: BA42	BH: BL45	BH: BK42
0	6657	5214	5188	5341
1	7729	8226	7302	7954
2	9188	10582	7300	10615
3	5873	6078	6371	7626
4	6690	7115	6156	6990
5	5867	6907	5851	6193
6	5753	6556	6082	5929
7	8240	6320	7285	5325
8	5924	5912	9385	6394
9	5254	5023	7711	5435
10	3474	5012	4504	5057
11	3726	3169	4053	3419
12	6340	3294	4724	3412
13	5136	4390	6638	4011
14	3817	6280	5588	4991
15	5098	5927	7066	5777
16	6247	6972	6867	5730
17	7418	7504	7087	6159
18	9700	7170	10244	5244
19	11481	6935	11475	6427
20	10989	6313	8672	5303
21			6843	4520
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-15-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4823

Borehole Count Rates

Depth	BH: AZ38	BH: BM41	BH: BA32	BH: BA28
0	5579	5427	4948	5463
1	7995	7638	7122	7476
2	8042	6526	5034	12936
3	5346	5438	5616	15672
4	6934	5501	6872	15995
5	6685	5462	5965	15473
6	5297	7207	5238	13912
7	4810	6589	5780	12171
8	5462	6722	5892	10409
9	5678	5797	5321	5640
10	4658	5587	4172	4537
11	4598	4640	5023	6818
12	5538	5256	8248	6578
13	7379	6708	7707	5080
14	6173	5512	6179	4779
15	6841	5025	5676	4310
16	6943	5300	4182	4891
17	5743	5153	4060	4943
18	4619	6509	4070	6184
19	4714	5740	4456	5229
20	4589	3932	3804	3907
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-15-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4823

Borehole Count Rates

Depth	BH: BH28	BH: BC24	BH: BB21	BH: BL39.5
0	5682	4929	5454	5805
1	6840	6358	8394	9353
2	5851	6919	7415	14106
3	5563	6659	5384	7838
4	5233	6555	7058	5128
5	5071	6447	7139	5817
6	6007	6108	6409	5184
7	6004	12437	5035	5047
8	5383	11962	4841	5443
9	4782	6146	4939	6333
10	4142	4430	4292	6263
11	3986	3880	4374	4171
12	4326	4315	4496	4001
13	7408	4956	4782	6153
14	6949	4526	5155	6240
15	6058	3950	4032	5982
16	5714	4131	5057	6109
17	4431	4246	7359	5357
18	4392	4925	8265	5816
19	4369	4741	6522	6295
20		4214	4219	5232
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-1409 & 09-15-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4882 / 4823

Borehole Count Rates

Depth	BH: BH33	BH: BD35	BH: BH42	BH: BH38
0	5343	5957	5337	4577
1	7119	6857	5958	5786
2	5329	7059	8247	7134
3	4228	5337	7817	5798
4	4483	6723	5320	4065
5	5270	5182	6924	3578
6	5477	4616	8041	3799
7	6275	4557	7602	5016
8	6060	4677	5136	6789
9	4792	4755	4378	6015
10	4453	3746	4056	4310
11	3798	3804	3886	2277
12	4003	5028	3592	2279
13	5601	7147	5040	2752
14	8163	5827	5256	5337
15	7274	6146	5945	5255
16	6853	5963	5835	5329
17	7314	5333	5424	5868
18	7219	4119	4943	5602
19	6158	4123	4783	5676
20	4508	4236	5594	5117
21		4272	6154	
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-15-09 & 09-17-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4823 / 4694

Borehole Count Rates

Depth	BH: BM37	BH: BL34	BH: BN31	BH: BM28
0	5545	5386	7114	6794
1	9200	7627	6156	7104
2	14892	11019	6016	5792
3	10287	5452	6388	6600
4	6699	6018	6435	5911
5	7066	6992	7063	6487
6	5855	6416	7178	6866
7	5421	6178	7087	7183
8	5829	7688	6509	6385
9	5885	8909	6058	4827
10	5001	5732	6435	5312
11	4189	4416	6514	5806
12	4054	3245	8537	7800
13	5107	3673	8335	8802
14	6598	4168	6336	7036
15	5325	5283	5991	6859
16	5264	6367	7144	5813
17	4156	7004	6434	5084
18	5915	8025	5383	4588
19	6720	7636	4940	4116
20	7319	6322	4192	3777
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-17-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4694

Borehole Count Rates

Depth	BH: BK31	BH: BK28	BH: BL25	BH: BM22
0	6810	6224	6404	4627
1	10257	8583	10106	8035
2	4878	5150	5283	6583
3	5245	5575	6849	5717
4	6153	5641	8344	7257
5	5399	5915	7363	7419
6	5459	5808	6002	7514
7	6403	7292	5676	7943
8	8171	6706	4716	6452
9	5848	5875	4778	6058
10	4647	4314	4956	5703
11	3851	3873	4510	4448
12	4543	4634	5846	5270
13	7324	7166	6424	5215
14	7589	6795	6362	4738
15	7000	6374	5145	3698
16	7253	5968	5310	3988
17	7855	5308	4502	4194
18	6880	4317	4144	4155
19	5694	4008	4050	4070
20	4508	3843	3817	4018
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4083

Borehole Count Rates

Depth	BH: BK18	BH: BL15	BH: BK12	BH: BH12
0	5872	5686	5661	4762
1	8269	8363	9647	5711
2	9980	8637	10797	7950
3	5890	6172	6471	6971
4	7835	7669	7525	6296
5	6869	7615	8279	7155
6	6471	7262	6200	6707
7	5468	6464	5313	5477
8	5206	5500	5209	4452
9	4666	5176	4668	4388
10	4400	5248	5254	4733
11	4566	5807	5608	4952
12	5067	5689	6547	6026
13	4173	5885	5964	6377
14	5361	5554	5242	6799
15	5312	5975	5455	6912
16	5394	5852	4367	6362
17	5051	5099	4479	5681
18	4845	4867	4216	5157
19	3841	4254	3851	4793
20	3388	-	3341	-
Samples collected				

Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4083

Borehole Count Rates

Depth	BH: BK22	BH: BM12	BH: BM18	BH: BH22
0	6321	6018	4361	4552
1	9370	10013	6836	6535
2	6625	10135	5562	6631
3	6278	6434	5276	5213
4	8175	7355	5829	6846
5	7244	6636	5429	6229
6	6492	6451	6460	6652
7	5428	7222	7051	9330
8	5176	5553	5912	7249
9	4446	4912	4589	4870
10	4139	5748	4322	4142
11	4067	6211	3934	4241
12	4421	6526	4128	4863
13	4666	5853	4521	4585
14	3671	5039	4259	4371
15	3697	5155	4617	4825
16	4367	5244	3989	4287
17	4268	4505	4061	4488
18	4242	4124	4046	4003
19	4030	4080	4028	4218
20	3640	-	3650	4009
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4083

Borehole Count Rates

Depth	BH: BA12	BH: BH18	BH: BD15	BH: BA18
0	5839	4805	5141	5854
1	9459	6774	6885	8480
2	9024	7112	8047	8085
3	6154	4877	5330	6367
4	6750	6268	6195	7280
5	6197	6237	6048	6522
6	5878	5265	6459	5645
7	5342	5760	4925	5469
8	5494	5403	4759	5163
9	5161	5316	4477	4877
10	4627	4829	4492	5551
11	5911	4398	4762	6774
12	5961	4928	5963	6265
13	5879	6010	5442	5815
14	6739	3563	5119	5256
15	7067	5501	5163	6536
16	6994	5399	5557	6681
17	4856	5214	5369	8648
18	4480	4538	5481	9000
19	3776	4111	5122	4331
20	3198	3749	3974	3808
Samples collected				

Client: Gaiatech Performed By: Roger Marsh

Location: 630 N. McClurg Court Date: 09-18-09

Instrument: Ludlum 2200 S/N: 69279 Probe: 44-10

Background: 4083

Borehole Count Rates

Depth	BH: BM68	BH:	BH:	BH:
0	5849			
1	4993			
2	4883			
3	5377			
4	6117			
5	6206			
6	6451			
7	6006			
8	6994			
9	5975			
10	6234			
11	6482			
12	7482			
13	6569			
14	4980			
15	6174			
16	7385			
17	7840			
18	7822			
19	7062			
20	5313			
21	4168			
22	4165			
Samples collected				

Appendix E

Survey Photo Summary

Photo 1: Looking north as first boring is advanced. 08-10-09

Photo 2: Looking northeast as radiation survey borings and casings are installed. 08-25-09

Photo 3: Preparing to complete downhole surveying. 08-26-09

Photo 4: Looking northeast as boring BH-AJ85 is surveyed. 08-28-09

Photo 5: Looking northeast as boring are installed and surveyed along McClurg Court. 09-03-09

Photo 6: Looking south at completed borings along McClurg Court. 09-04-09

Photo 7: Looking north as boring BH-BB1 is surveyed. 09-04-09

Photo 8: Looking northeast as both drilling figs are setting up to install borings. 09-10-09

Photo 9: Looking east as boring is surveyed. 09-14-09

Photo 10: Looking west as drilling crew installs survey borings. 09-14-09

Photo 11: Looking southwest as drilling crews are installing borings and survey casings. 09-15-09

Photo 12: RSSI personnel surveying borings along Erie Street. 09-17-09

Photo 13: Sifting and jarring samples collected from around boring BH-AO44. 09-18-09

Photo 14: Looking west as final borings are installed. 09-18-09

Appendix F

Laboratory Soil Sample Analytical Results

Gaiatech 630 N McClurg

RSSI Sample #	Borehole ID	Depth ft	Collection Date	Analysis Date	Ac-228 pCi/g	Pb-214 pCi/g	TOTAL pCi/g
G090177	AO44 North	1-3	9/18/2009	10/1/2009	0.88	3.33	4.21
G090178	AO44 West	1-3	9/18/2009	10/1/2009	0.85	2.29	3.14
G090179	AO44 SE		9/18/2009	10/1/2009	1.13	3.62	4.75

RSSI Spectrum name: G090179.An1

Sample description
G090179 Gaiatech AO 44 SE 1005.9 g.

Spectrum Filename: H:\GammaVision\User\Spectra\G090179.An1

Acquisition information

Start time:	21-Sep-2009 14:03:58
Live time:	3600
Real time:	3611
Dead time:	0.29 %
Detector ID:	1

Detector system
USER-802B915354 MCB 9

Calibration
Filename: G090179.An1

Energy Calibration

Created:	01-Oct-2009 16:00:39
Zero offset:	7.318 keV
Gain:	0.232 keV/channel
Quadratic:	2.006E-08 keV/channel^2

Efficiency Calibration

Created:	04-May-2009 16:15:28
Type:	Polynomial
Uncertainty:	1.565 %
Coefficients:	-0.256202 -4.803420 0.697441
	-0.095055 0.005293 -0.000126

Library Files

Main analysis library:	1001.Lib
Library Match Width:	0.500
Peak stripping:	Library based

Analysis parameters

Analysis engine:	Env32 G53W4.22
Start channel:	35 (15.43keV)
Stop channel:	8144 (1895.19keV)
Peak rejection level:	100.000%
Peak search sensitivity:	2
Sample Size:	1.0059E+03
Activity scaling factor:	1.0000E+00/(1.0000E+00* 1.0059E+03) = 9.9413E-04
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00
Fraction Limit:	10.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000

RSSI Spectrum name: G090179.An1

Activity range factor: 2.000
Min. step backg. energy 0.000
Multiplet shift channel 2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	YES	09_05_13.Pbc 13-May-2009 16:37:50
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

total peaks alloc. 37 cutoff 20.00000 %
Energy Calibration
Normalized diff: 0.0681

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV		Suspected Nuclide
114.09	33.75	484.	312.	0.087	13.46	1.154	-	s
189.74	51.27	761.	103.	0.029	46.07	0.591	-	s
344.85	87.21	1696.	564.	0.157	13.99	1.267	-	sM
356.55	89.91	1372.	316.	0.088	21.07	1.121	-	M
369.00	92.80	1962.	817.	0.227	11.39	1.180	-	sM
526.66	129.32	1950.	241.	0.067	37.21	0.644	-	sM
542.48	132.99	1224.	145.	0.040	42.61	0.698	-	sM
615.32	149.86	1027.	82.	0.023	64.50	0.478	-	sM
771.83	186.12	1582.	1367.	0.380	5.99	1.261	-	sM
785.66	189.33	1142.	138.	0.038	46.44	0.448	-	sM
871.91	209.31	1592.	234.	0.065	36.69	0.604	-	s
900.91	216.03	806.	80.	0.022	62.47	0.581	-	s
1033.00	246.63	463.	68.	0.019	53.35	0.677	-	s
1134.82	270.22	896.	346.	0.096	17.33	1.983	-	s
1577.68	372.83	180.	31.	0.009	98.43	0.564	-	sc
1675.16	395.42	279.	45.	0.012	63.43	0.596	-	s
1804.62	425.12	180.	55.	0.015	37.00	1.332	-	D
1813.36	427.14	273.	104.	0.029	24.52	1.334	-	D
1929.57	454.37	380.	131.	0.036	31.79	0.503	-	s
2071.01	487.15	263.	135.	0.038	25.16	0.548	-	s
2094.56	492.61	219.	51.	0.014	59.70	0.541	-	s
2675.69	627.28	155.	39.	0.011	61.26	0.289	-	s
2840.18	665.40	137.	171.	0.048	16.13	0.925	-	s
3175.55	743.13	120.	90.	0.025	27.44	0.479	-	sM
3643.78	851.66	80.	68.	0.019	30.30	0.344	-	s
4616.08	1077.05	111.	65.	0.018	41.19	0.509	-	s

RSSI Spectrum name: G090179.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM	Suspected
5975.73	1392.30	32.	47.	0.013	30.61	0.444	- s
6180.98	1439.89	20.	22.	0.006	41.16	0.548	- s

s - Peak fails shape tests.
D - Peak area deconvoluted.
L - Peak written from unknown list.
C - Area < Critical level.
M - Peak is close to a library peak.

This section based on library: 1001.Lib

***** S U M M A R Y O F L I B R A R Y P E A K U S A G E *****

Nuclide Name	Code	Average Activity uCi/g	Peak Energy keV	Peak Activity uCi/g	Code	MDA Value uCi/g	COMMENTS
PB-214	N	3.6150E-06					
			351.92	3.654E-06	(P	2.836E-08 1.73E+00	G
			295.21	3.540E-06	(P	5.063E-08 2.84E+00	G
							Energy duplication
			77.11	3.615E-06	} P	1.932E-07 5.06E+00	XA
			241.98	3.382E-06	- P	1.863E-07 4.66E+00	G
							Energy duplication
			74.81	3.615E-06	}	4.376E-07 5.44E+00	XA
			5 of 5 peaks found				
BI-214	N	3.5978E-06					
			609.31	3.575E-06	(P	2.618E-08 2.02E+00	G
			1764.49	4.319E-06	+	2.383E-07 4.06E+00	G
			1120.29	4.013E-06	+ P	2.161E-07 5.67E+00	G
			1238.11	4.542E-06	+ P	3.952E-07 8.43E+00	G
			768.36	3.810E-06	@(P	2.067E-07 1.15E+01	G
			5 of 5 peaks found				
AC-228	N	1.1270E-06					
			911.07	1.138E-06	(P	3.948E-08 6.50E+00	G
			969.11	1.114E-06	(P	6.740E-08 7.75E+00	G
			338.32	1.120E-06	*(P	7.781E-08 9.81E+00	G
			964.77	1.395E-06	+ P	2.940E-07 1.70E+01	GA
			4 of 4 peaks found				
PB-212	N	8.8944E-07					
			238.63	8.894E-07	(P	2.154E-08 3.16E+00	G
							Energy duplication
			77.11	8.894E-07	} P	1.485E-07 5.77E+00	XA
							Energy duplication
			74.81	8.894E-07	}	2.022E-07 6.10E+00	XA
			300.09	1.473E-06	+	2.602E-07 1.91E+01	G
			4 of 4 peaks found				

RSSI Spectrum name: G090179.An1

Nuclide	Ave activity	Energy	Activity	Code	Peak MDA	Comments
BI-212	N 1.3722E-06					
		727.17	1.372E-06	(P	1.262E-07	1.44E+01 G
		1620.50	2.282E-06	+ P	5.769E-07	2.35E+01 G
		785.46	8.882E-06	&	1.266E-06	1.80E+01 G
		3 of 5 peaks found				
TL-208	N 3.0223E-07					
		583.14	3.022E-07	(P	1.348E-08	7.20E+00 G
		510.84	5.054E-07	+ P	6.988E-08	1.17E+01 G
		860.37	9.516E-07	+ P	1.242E-07	1.59E+01 G
		277.36	4.506E-07	+	1.369E-07	4.07E+01 GA
		4 of 5 peaks found				
K-40	N 1.2756E-05					
		1460.80	1.276E-05	(P	1.805E-07	2.58E+00 G
		1 of 1 peaks found				

(- This peak used in the nuclide activity average.

* - Peak is too wide, but only one peak in library.
! - Peak is part of a multiplet and this area went negative during deconvolution.
? - Peak is too narrow.
@ - Peak is too wide at FW25M, but ok at FWHM.
% - Peak fails sensitivity test.
$ - Peak identified, but first peak of this nuclide failed one or more qualification tests.
\+ - Peak activity higher than counting uncertainty range.
\- - Peak activity lower than counting uncertainty range.
= - Peak outside analysis energy range.
& - Calculated peak centroid is not close enough to the library energy centroid for positive identification.
P - Peakbackground subtraction
) - Peak is too close to another for the activity to be found directly.

Nuclide Codes:	Peak Codes:
T - Thermal Neutron Activation	G - Gamma Ray
F - Fast Neutron Activation	X - X-Ray
I - Fission Product	P - Positron Decay
N - Naturally Occurring Isotope	S - Single-Escape
P - Photon Reaction	D - Double-Escape
C - Charged Particle Reaction	K - Key Line
M - No MDA Calculation	A - Not in Average
R - Coincidence Corrected	C - Coincidence Peak
H - Halflife limit exceeded	

- -

Laboratory: RSSI

RSSI Spectrum name: G090178.An1

Sample description
G090178 Gaiatech AO 44 WEST 1-3' 872.2 g.

Spectrum Filename: H:\GammaVision\User\Spectra\G090178.An1

Acquisition information

Start time:	21-Sep-2009 12:53:35
Live time:	3600
Real time:	3607
Dead time:	0.21 %
Detector ID:	1

Detector system
USER-802B915354 MCB 9

Calibration

Filename:	G090178.An1

Energy Calibration

Created:	01-Oct-2009 16:05:25
Zero offset:	7.174 keV
Gain:	0.232 keV/channel
Quadratic:	2.055E-08 keV/channel^2

Efficiency Calibration

Created:	04-May-2009 16:15:28
Type:	Polynomial
Uncertainty:	1.565 %
Coefficients:	-0.256202 -4.803420 0.697441
	-0.095055 0.005293 -0.000126

Library Files

Main analysis library:	1001.Lib
Library Match Width:	0.500
Peak stripping:	Library based

Analysis parameters

Analysis engine:	Env32 G53W4.22
Start channel:	35 (15.28keV)
Stop channel:	8144 (1895.14keV)
Peak rejection level:	100.000%
Peak search sensitivity:	2
Sample Size:	8.7220E+02
Activity scaling factor:	1.0000E+00/(1.0000E+00* 8.7220E+02) = 1.1465E-03
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00
Fraction Limit:	10.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000

RSSI Spectrum name: G090178.An1

Activity range factor: 2.000
Min. step backg. energy 0.000
Multiplet shift channel 2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	YES	09_05_13.Pbc 13-May-2009 16:37:50
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

total peaks alloc. 33 cutoff 20.00000 %
Energy Calibration
Normalized diff: 0.0910

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV		Suspected Nuclide
114.84	33.78	304.	156.	0.043	19.40	1.031	-	sM
345.58	87.23	1025.	289.	0.080	20.56	0.799	-	sM
720.04	173.99	1177.	135.	0.038	53.46	0.390	-	sM
771.79	185.98	1292.	857.	0.238	8.81	1.397	-	M
830.04	199.47	670.	102.	0.028	39.54	0.495	-	s
874.38	209.74	891.	139.	0.039	43.78	0.802	-	s
964.15	230.54	632.	106.	0.029	46.44	0.385	-	s
1135.79	270.31	491.	151.	0.042	25.06	0.724	-	s
1340.34	317.71	358.	59.	0.016	60.16	0.478	-	s
1720.27	405.74	280.	45.	0.013	94.15	0.393	-	s
2130.04	500.70	82.	56.	0.015	33.43	0.457	-	s
2346.39	550.84	88.	44.	0.012	42.09	0.347	-	s
3549.70	829.74	95.	57.	0.016	41.95	0.595	-	s
3744.89	874.99	65.	84.	0.023	25.46	0.317	-	sM
3885.06	907.47	99.	33.	0.009	45.74	1.706	-	D
4000.14	934.16	86.	120.	0.033	20.17	0.306	-	s
5257.90	1225.76	38.	57.	0.016	27.45	0.270	-	s
5912.01	1377.44	40.	126.	0.035	15.65	0.713	-	s
6086.47	1417.90	17.	31.	0.009	32.48	0.597	-	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
L - Peak written from unknown list.
C - Area < Critical level.
M - Peak is close to a library peak.

This section based on library: 1001.Lib

***** S U M M A R Y O F L I B R A R Y P E A K U S A G E *****

- Nuclide - Name	Code	Average Activity uCi/g	Peak Energy keV	Activity uCi/g	Code	MDA Value uCi/g	COMMENTS
PB-214	N	2.2980E-06					
			351.92	2.318E-06	(P	2.314E-08 2.53E+00	G
			295.21	2.259E-06	(P	4.638E-08 3.38E+00	G
							Energy duplication
			77.11	1.744E-06	} P	2.001E-07 1.26E+01	XA
			241.98	2.298E-06	(P	1.168E-07 6.08E+00	G
							Energy duplication
			74.81	2.298E-06	}	4.213E-07 5.75E+00	XA
			5 of 5 peaks found				
BI-214	N	2.3092E-06					
			609.31	2.277E-06	(P	2.195E-08 2.59E+00	G
			1764.49	2.810E-06	+	2.095E-07 5.76E+00	G
			1120.29	2.408E-06	(P	7.197E-08 5.94E+00	G
			1238.11	2.790E-06	+ P	3.788E-07 1.70E+01	G
			768.36	3.146E-06	+ P	3.536E-07 1.35E+01	G
			5 of 5 peaks found				
AC-228	N	8.4782E-07					
			911.07	8.142E-07	(P	4.339E-08 6.78E+00	G
			969.11	8.992E-07	(P	6.670E-08 1.26E+01	G
			338.32	8.545E-07	(P	7.571E-08 1.25E+01	G
			964.77	1.335E-06	+ P	2.700E-07 2.09E+01	GA
			4 of 4 peaks found				
PB-212	N	7.4293E-07					
			238.63	7.429E-07	(P	2.042E-08 3.59E+00	G
							Energy duplication
			77.11	7.429E-07	} P	1.427E-07 6.06E+00	XA
							Energy duplication
			74.81	7.429E-07	}	1.973E-07 6.37E+00	XA
			300.09	1.040E-06	+	2.460E-07 2.57E+01	G
			4 of 4 peaks found				
BI-212	N	1.3098E-06					
			727.17	1.212E-06	(P	1.374E-07 1.82E+01	G
			1620.50	1.691E-06	?(P	2.304E-07 2.42E+01	G
			785.46	7.044E-06	+	1.101E-06 1.67E+01	G
			3 of 5 peaks found				
TL-208	N	2.8886E-07					
			583.14	2.860E-07	(P	1.274E-08 8.38E+00	G
			510.84	3.001E-07	*(P	5.695E-08 1.37E+01	G
			860.37	4.777E-07	+ P	1.004E-07 2.25E+01	G
			277.36	1.667E-07	&	1.013E-07 6.27E+01	GA
			4 of 5 peaks found				

RSSI Spectrum name: G090178.An1

Nuclide	Ave activity	Energy	Activity	Code	Peak MDA	Comments
K-40	N 1.0310E-05					
		1460.80	1.031E-05	(P	2.095E-07	3.13E+00 G

1 of 1 peaks found

(- This peak used in the nuclide activity average.

* - Peak is too wide, but only one peak in library.
! - Peak is part of a multiplet and this area went negative during deconvolution.
? - Peak is too narrow.
@ - Peak is too wide at FW25M, but ok at FWHM.
% - Peak fails sensitivity test.
$ - Peak identified, but first peak of this nuclide failed one or more qualification tests.
+ - Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
= - Peak outside analysis energy range.
& - Calculated peak centroid is not close enough to the library energy centroid for positive identification.
P - Peakbackground subtraction
} - Peak is too close to another for the activity to be found directly.

Nuclide Codes:	Peak Codes:
T - Thermal Neutron Activation	G - Gamma Ray
F - Fast Neutron Activation	X - X-Ray
I - Fission Product	P - Positron Decay
N - Naturally Occurring Isotope	S - Single-Escape
P - Photon Reaction	D - Double-Escape
C - Charged Particle Reaction	K - Key Line
M - No MDA Calculation	A - Not in Average
R - Coincidence Corrected	C - Coincidence Peak
H - Halflife limit exceeded	

- -

Laboratory: RSSI

RSSI Spectrum name: G090177.An1

Sample description
G090177 Gaiatech AO 44 NORTH 1-3' 910 g.

Spectrum Filename: H:\GammaVision\User\Spectra\G090177.An1

Acquisition information

Start time:	21-Sep-2009 11:43:20
Live time:	3600
Real time:	3609
Dead time:	0.26 %
Detector ID:	1

Detector system
USER-802B915354 MCB 9

Calibration
Filename: 09_09_21.Clb

Energy Calibration

Created:	23-Sep-2009 15:41:23
Zero offset:	6.727 keV
Gain:	0.231 keV/channel
Quadratic:	3.719E-08 keV/channel^2

Efficiency Calibration

Created:	04-May-2009 16:15:28
Type:	Polynomial
Uncertainty:	1.565 %
Coefficients:	-0.256202 -4.803420 0.697441
	-0.095055 0.005293 -0.000126

Library Files

Main analysis library:	1001.Lib
Library Match Width:	0.500
Peak stripping:	Library based

Analysis parameters

Analysis engine:	Env32 G53W4.22
Start channel:	35 (14.83keV)
Stop channel:	8144 (1894.27keV)
Peak rejection level:	100.000%
Peak search sensitivity:	2
Sample Size:	9.1000E+02
Activity scaling factor:	1.0000E+00/(1.0000E+00* 9.1000E+02) = 1.0989E-03
Detection limit method:	Traditional ORTEC method
Random error:	1.0000000E+00
Systematic error:	1.0000000E+00
Fraction Limit:	10.000%
Background width:	best method (based on spectrum).
Half lives decay limit:	12.000

RSSI Spectrum name: G090177.An1

Activity range factor: 2.000
Min. step backg. energy 0.000
Multiplet shift channel 2.000

Corrections	Status	Comments
Decay correct to date:	NO	
Decay during acquisition:	NO	
Decay during collection:	NO	
True coincidence correction:	NO	
Peaked background correction:	YES	09_05_13.Pbc 13-May-2009 16:37:50
Absorption (Internal):	NO	
Geometry correction:	NO	
Random summing:	NO	

total peaks alloc. 39 cutoff 20.00000 %
Energy Calibration
Normalized diff: 0.2795

********** U N I D E N T I F I E D P E A K S U M M A R Y **********

Peak Channel	Centroid Energy	Background Counts	Net Area Counts	Intensity Cts/Sec	Uncert 1 Sigma %	FWHM keV		Suspected Nuclide
117.35	33.89	605.	478.	0.133	10.50	0.242	-	s
242.77	62.82	1618.	237.	0.066	24.90	1.535	-	D
290.21	73.91	2770.	151.	0.042	50.07	1.544	-	D
332.12	83.55	1393.	327.	0.091	17.04	1.551	-	D
346.15	86.80	1959.	625.	0.174	10.78	1.554	-	D
357.06	89.33	2240.	428.	0.119	16.38	1.556	-	D
370.25	92.38	2083.	858.	0.238	8.26	1.558	-	D
491.70	120.55	470.	47.	0.013	66.84	0.472	-	c
636.37	154.04	1467.	152.	0.042	45.31	0.540	-	sM
772.87	185.64	2181.	1372.	0.381	7.32	1.350	-	M
796.23	191.05	1317.	147.	0.041	46.81	0.552	-	sM
1025.43	244.49	1286.	56.	0.016	91.47	1.673	-	sc
1187.22	281.54	657.	70.	0.019	53.39	1.700	-	D
1197.90	284.01	767.	67.	0.018	60.13	1.702	-	D
1615.20	380.69	327.	84.	0.023	45.92	0.305	-	s
1647.66	388.21	364.	70.	0.020	53.90	0.647	-	s
1676.04	394.78	235.	52.	0.014	56.87	0.268	-	s
1705.72	401.66	200.	29.	0.008	73.59	0.560	-	sc
1767.26	415.91	240.	123.	0.034	32.14	0.495	-	s
1900.70	447.13	208.	26.	0.007	82.27	1.814	-	sc
1913.23	450.03	194.	62.	0.017	34.39	1.816	-	D
2019.86	474.41	161.	42.	0.012	57.27	0.629	-	s
2143.48	503.04	196.	141.	0.039	29.32	0.338	-	s
3026.98	707.72	44.	24.	0.007	47.12	0.288	-	s
3137.55	733.34	82.	65.	0.018	31.22	0.300	-	sM
3761.28	877.87	79.	88.	0.024	26.44	0.484	-	sM

RSSI Spectrum name: G090177.An1

Channel	Energy	Background	Net area	Cnts/sec	Uncert	FWHM		Suspected
3902.79	910.67	432.	108.	0.030	28.77	2.083	-	D
4000.84	933.39	95.	201.	0.056	13.27	0.664	-	s
4104.36	957.38	81.	62.	0.017	36.34	0.350	-	sM
4800.21	1118.68	425.	126.	0.035	24.86	2.180	-	D
5258.39	1224.90	119.	97.	0.027	30.76	0.345	-	s
5662.91	1318.70	10.	8.	0.002	73.33	0.286	-	sc
6045.00	1407.31	52.	132.	0.037	16.84	0.306	-	s

s - Peak fails shape tests.
D - Peak area deconvoluted.
L - Peak written from unknown list.
C - Area < Critical level.
M - Peak is close to a library peak.

This section based on library: 1001.Lib

***** S U M M A R Y O F L I B R A R Y P E A K U S A G E *****

- Nuclide - Name	Code	Average Activity uCi/g	Peak Energy keV	Peak Activity uCi/g	Code	MDA Value uCi/g	COMMENTS
PB-214	N	3.3356E-06					
			351.92	3.336E-06	(P	3.150E-08 2.36E+00	G
			295.21	3.061E-06 -	P	1.049E-07 3.21E+00	G
							Energy duplication
			77.11	3.151E-06)	P	2.292E-07 7.91E+00	XA
			241.98	3.891E-06 +	P	2.032E-07 4.36E+00	G
							Energy duplication
			74.81	3.336E-06)		5.961E-07 1.34E+01	XA
			5 of 5 peaks found				
BI-214	N	3.0037E-06					
			609.31	3.004E-06	(P	2.885E-08 2.24E+00	G
			1764.49	3.799E-06 +		2.350E-07 4.51E+00	G
			1120.29	2.523E-06 -	P	2.004E-07 9.57E+00	G
			1238.11	2.244E-06 -	P	3.524E-07 1.74E+01	G
			768.36	2.123E-06 -	P	3.143E-07 1.51E+01	G
			5 of 5 peaks found				
AC-228	N	8.7823E-07					
			911.07	7.364E-07 ?(	P	5.929E-08 1.51E+01	G
			969.11	9.628E-07	(P	8.298E-08 9.86E+00	G
			338.32	1.102E-06	(P	8.872E-08 8.85E+00	G
			964.77	1.539E-06 +	P	3.591E-07 1.94E+01	GA
			4 of 4 peaks found				

RSSI Spectrum name: G090177.An1

Nuclide	Ave activity	Energy	Activity	Code	Peak MDA	Comments
PB-212	N 1.0765E-06					
		238.63	1.076E-06	(P	2.566E-08 3.08E+00	G
						Energy duplication
		77.11	1.076E-06 }	P	1.695E-07 5.72E+00	XA
						Energy duplication
		74.81	1.076E-06 }		2.931E-07 2.41E+01	XA
		300.09	6.329E-07 -		2.733E-07 5.60E+01	G
		4 of 4 peaks found				
BI-212	N 2.0427E-06					
		727.17	2.054E-06	(P	1.501E-07 1.41E+01	G
		1620.50	2.000E-06 ?(P		2.422E-07 2.27E+01	G
		2 of 5 peaks found				
TL-208	N 3.7833E-07					
		583.14	3.783E-07	(P	1.500E-08 8.09E+00	G
		510.84	4.873E-07 &	P	7.494E-08 2.39E+01	G
		860.37	6.943E-07 +	P	1.190E-07 2.01E+01	G
		277.36	3.763E-07 ?		1.298E-07 4.01E+01	GA
		4 of 5 peaks found				
K-40	N 1.3574E-05					
		1460.80	1.357E-05	(P	2.012E-07 2.71E+00	G
		1 of 1 peaks found				

(- This peak used in the nuclide activity average.

* - Peak is too wide, but only one peak in library.
! - Peak is part of a multiplet and this area went negative during deconvolution.
? - Peak is too narrow.
@ - Peak is too wide at FW25M, but ok at FWHM.
% - Peak fails sensitivity test.
$ - Peak identified, but first peak of this nuclide failed one or more qualification tests.
+ - Peak activity higher than counting uncertainty range.
- - Peak activity lower than counting uncertainty range.
= - Peak outside analysis energy range.
& - Calculated peak centroid is not close enough to the library energy centroid for positive identification.
P - Peakbackground subtraction
} - Peak is too close to another for the activity to be found directly.

Nuclide Codes:	Peak Codes:
T - Thermal Neutron Activation	G - Gamma Ray
F - Fast Neutron Activation	X - X-Ray
I - Fission Product	P - Positron Decay
N - Naturally Occurring Isotope	S - Single-Escape
P - Photon Reaction	D - Double-Escape
C - Charged Particle Reaction	K - Key Line
M - No MDA Calculation	A - Not in Average
R - Coincidence Corrected	C - Coincidence Peak
H - Halflife limit exceeded	

- -
Laboratory: RSSI

RSSI 6312 W. OAKTON STREET MORTON GROVE, IL 60053-2723
(847) 965-1999 FAX (847) 965-1991

ANALYTICAL REQUEST FORM

LICENSE IL-01429-01
THIS SHIPMENT MUST COMPLY WITH DOT REGULATIONS

CALL *RSSI* BEFORE SENDING ANY SAMPLES

DATE 9/18/09 PURCHASE ORDER NUMBER _____
COMPANY NAME Gaiatech
ADDRESS _____
PERSON TO CONTACT Larry Bertsch TELEPHONE _____

SAMPLING SITE 630 N. McClurg PROCESS (if applicable) _____
DATE OF COLLECTION _____ TIME COLLECTED _____ COLLECTED BY _____
DATE OF SHIPMENT _____ CHAIN OF CUSTODY NUMBER (if applicable) _____

Laboratory Use Only	Client Sample ID	Sample Type*	Area Wiped, Sample Volume or Mass	Required Limit of Detection	Brief Description including Analyses Requested and Expected Radionuclides
G090177	AO44 North 1-3'	Bulk	910.0 g		AO44 North 1-3'
G090178	AO44 West 1-3'	Bulk	872.2 g		AO44 West 1-3'
G090179	AO44 SE	Bulk	1005.9 g		AO44 SE

*Specify: Wipe test, Air sample, Bulk Sample, Soil, Water, Other
DO NOT USE FOR SEALED SOURCE LEAK TESTS

COMMENTS: _____

POSSIBLE CONTAMINATION AND/OR CHEMICAL HAZARDS _____